Presidential Address,

Delivered at the Sixty-third Annual Meeting of the British Medical Association, at London, on July 30th, 1895,

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ON THE ORGANISED PROGRESS OF MEDICINE.

GENTLEMEN,—Twenty-two years ago the British Medical Association held its annual meeting in London, and last year the members of the Metropolitan Counties Branch thought there were then abundant reasons why the Association should be invited to assemble here again, and the whole meeting of the Society convened in Bristol cordially accepted the invitation.

The Association was presided over in 1873 by the late Sir William Fergusson, the most distinguished surgeon of that day; there must be hundreds here who remember him well: his grand physique, his skilful and, indeed, artistic performances; the absolute ease with which he bore himself under the most trying circumstances of unavoidable accidents and yet not unforeseen, of events which no human knowledge could forecast, and of difficulties which needed all his resources of hand and courage to encounter. Yet, gentlemen, I venture to say that if, like a well-known but not quite historic character, Sir William Fergusson could have fallen asleep about that time, and have not waked up again until now, and were capable of appearing amongst us again, absolutely unconscious of the kind of progress made in surgery during those two-and-twenty years, and of the steps by which such progress was carried to its successful ends, even that dauntless surgeon might pause to perform an operation which either of his dressers of twenty years ago might be announced to do to-day, and would do without fear or dread. "Experience is by industry achieved and perfected by the swift course of time." Such industry has been unsparing, I may also say relentless, not in consideration of the patient, but of the worker. It has come from all sources of scientific investigation that could be focussed in the operating theatre, and it has done more than the surgeon of my student days—and Robert Liston was daring enough—could have foreseen even in his most optimistic dreams.

The Address in Medicine was delivered in 1873 by the late Edmund Alexander Parkes, and all of us who remember him, and all who have become acquainted with his writings, know how vast was his range of information, how keen his foresight, and how subtle and yet how true his faculty as a critic; but still, if Parkes could, even after only the few years since his untimely death, revisit Netley, or his still older haunt, University College, even he would be entirely bewildered and amazed if he found his house physician feeding a patient on sweetbreads, or injecting thyroid extract for the cure of myxœdema. In physiology, in pathology, and in medicine advances, equally important to each, have been made during the past two-and-twenty years. It is not my intention to occupy your time with any details on these matters; but let me recall for a moment your attention to the vast strides that have been made in the elucidation of both structure and function—such, for example, as in the researches upon the thyroid, the adrenal bodies, the spleen, and the liver; the advance of bacteriology; the function of the axis-cylinder of nerves; and the magnificent prospect before us of a new field of therapeutics in the serum treatment of disease. Physiologists, pathologists, and therapeutists have "seen visions" and in the past have "dreamed dreams"—as we may be dreaming now—but the facts, now well before us, have certainly astonished even the expectant, have surpassed their imaginations, and opened before them, not one only, but many doors into regions crowded to the full with yet more fruitful information, waiting only to be arranged and utilised.

So much of the work that has led to this present state of science has been accomplished in the metropolis that, although we know what has been done and is still being done in the provinces, we thought it well to ask you to meet us here, tell us of your own work, and join with us in a mutual endeavour to gather more and more by combined work and earnest, honest rivalry for truth than we could do by disunited efforts. What my object in this address is mainly concerned with is to draw your attention to that which seems to me to be the most striking fact of modern physiological, pathological, and therapeutical research—namely, the power of "living" things for both good and evil—namely, in the conservation of health and in the prevention or cure of disease. The mineral and inorganic world has helped us much, but now our help and hope come mainly from organised products and still living agencies.

During the last twenty years there has been established, to the great advantage of our profession, the "Conjoint Examination" by the Royal Colleges of Physicians and Surgeons. This, while not interfering with the autonomy of either College, has raised the plane of education required of all who are candidates for entrance into the profession, and has so brought into combined action the Colleges themselves, that they have added, each to the other, authority and dignity in the recommendations they have made from time to time with regard to matters of education, Parliamentary proceedings, State medicine, and scientific research. But the building on the Thames Embankment, which will be well seen during the next few days, is very much more than an Examination Hall: it is the centre of a very hive of industrious work. You will see there the most recondite and obscure processes of Nature under the most elaborate scrutiny and faithful record. The delicate phenomena and suggestions of "living" and "chemic" functions are under minute survey, analysis, and detail. The points where they touch, the mode in which facts of either may be rendered in terms of the other; their bearings upon the life of animals and men, both as individuals and as parts of a community; the diagnosis of the most obscure diseases, and the tentative and more than tentative endeavours to counteract poisons, which can be separated but not destroyed, over-ruled but not abolished,—these, and much more, you will see under the skilful and careful guidance of the able director of the laboratory, who, with his many coadjutors, will gladly welcome all those who are interested in such minute research. This is one of the products of the last twenty years, but it does not stand alone; the Brown Institute, the Society for the Promotion of Knowledge by Research, the laboratory of University College and of the other large schools, are all doing similar work, and constitute the most promising features of the present day with regard to advance in the science and art of medicine. In all our schools you will, I am sure, find very great improvement in the mode and scope of teaching; and this especially in it being less didactic and more practical. Much of the old-fashioned, often dreary "lecture" of an hour's duration has passed away, and in its place is a "demonstration," an "object lesson," a conversation, or examination. These are more useful and therefore more attractive to the students, and at the same time more trying, but none the less efficiently rendered by the teachers. Again, in clinical teaching you will observe much more and closer personal relationships, not only between the physician and student, but between the student and the patient. The latter is not a mere "dummy" in a bed, exhibited as a specimen of this disease or that, but a "human being" to be spoken to and to help you—I mean the student—to find out whether or no the card at the head of his bed, on which the diagnosis of his malady is supposed to be written, is correct or as full as it might be.

Then there is another point which has struck me much during the past ten years, and especially so whenever demonstrations are being given, either at the bedside or in the laboratory, namely, the far greater interest and earnestness which characterise the student of to-day as compared with his predecessor. Much of this is, I think, due to the indulgence of a larger hope. Hidden as still are the great mysteries of life, there yet are definite facts to be grasped by the mind, to be seen and handled, not only imagined or asserted; and the place of these facts in the economy of Nature, their bearing upon others, and their relation to work yet to follow, give a precision and confidence to study that is, comparatively speaking, of modern growth. There was plenty of assertion and show of knowledge in the past; but even the teachers did not believe the half of what they taught, or comprehended the half of their sage pronouncings. Nature has, as it were, taken man more into her confidence, and daily reveals so much, even while concealing more, that the

learner stands firmly on the ground he has gained, instead of trembling on a quagmire, the length and breadth and depth of which he could not see and did not care much to imagine or investigate. He felt sure of little then but of his own and his teacher's ignorance, but now he grasps much that is ascertained truth and such as can be seen, shown, measured, and recorded with perfect accuracy. Our metropolitan museums in Bloomsbury, South Kensington, and Lincoln's-inn-fields will afford to all museum lovers an ample reward for careful examination. Two of them were splendid examples twenty years ago of what could be done to make "collections of material" instinct with information and object-lessons of physiological and anatomical lore; but the marvellous accumulations that have reached us during the period I have mentioned are, I think, only exceeded in marvel by the industry, high thought, and consummate skill with which these materials have been arranged, and made to tell, in their own way, the story of their being and of their place in the great Cosmos of which they form a part. The journal of the Association informs us that the work of this meeting will be carried on by fifteen sections, fully equipped with their respective officers, and each presenting subjects for discussion to be brought forward and threshed out by able hands. But let me remind you that these sections, or at least many of them, have had now, for varying numbers of years, their counterparts in the metropolitan and provincial branches and societies, where discussions are taking place all the year round, records of which are constantly published in magazines, proceedings, and other appropriate journals. In this manner the increase of medical literature has become enormous, and as a rule its value is very high. Of course, it would be too much to suppose that, coming from so many sources and from such differently constituted minds, its merit should always be equal or of the highest order. It cannot be expected of all who write and all who speak that one should say, as was well said of one of our late distinguished members, "he spoke because he had something to say, not because he wanted to say something." In the business of these societies it is the bringing together of recent facts or ideas and the friction of mind with mind that is so useful in separating the real and substantial from the imaginary or accidental; and in this work all our large towns and even country districts are assisting; and the marvel is that when we meet, even as we do now here in the metropolis, there should be such a tremendous store of material to be brought before us for discussion or reception. For example, in the Section of Medicine alone there are three subjects for discussion, and on these fifty members have already expressed their wish to speak; there are, moreover, thirty papers promised, and it is to be expected that few of these will pass without any variety of opinion on their merits being entertained and expressed. It is not to be imagined that all that is advanced will be either new or true, but of this we may be sure—that nothing will be brought forward without duly careful consideration, and apart from the belief that it is worthy of the time and the attention which those who are present will be asked to bestow. I am induced to make these remarks by the fact that the number of members of the Association is now three times as great as it was when we last met in London, and it is one of the most important events of the last twenty years that such an organisation should have grown into being, and should have such a vast influence for good over the whole civilised world.

There are some points in our present state of scientific precision in which, to my mind, it would appear we have made but little advance. We know much more about diseases, their origin, their anatomy, pathology, inter-relations, modes of ending, and their treatment; but with regard to nosology and nomenclature there is little of which we have to be proud. Groups of symptoms have been described by different observers as marking some tolerably distinct departures from recognised types of malady, and, for want of any nosological position being assigned to them, they are called after their first describers' names, and so we have not only Bright's disease, Addison's disease, and Graves' disease, but a host of others, often indeterminate in character, going by the name of Friedreich, Raynaud, Hodgkin, and others, until there is a fair prospect of every distinguished pathologist or clinical investigator being handed down to posterity as a disease the name of which conveys no semblance of a meaning as to its nature. Still further, and more to be deplored, there are smaller groups of symptoms which are not honoured by receiving the names of their describers as separate diseases, but the names of the observers are tied on to the symptoms; and so Cheyne-Stokes' breathing, Corrigen's pulse, von Graefe's sign, somebody else's phenomenon, and a multitude of other like phrases are used, to the great confusion of the student, and not only so, but to his real and permanent injury. For what is easier to say than that there is "Cheyne-Stokes' breathing" except to feel a sense of rest in having made use of that learned phrase, and so practically to shut the door to further inquiry as to what it means and how it comes about, what its diagnostic or prognostic value may be, and how it bears on therapeutics? When quite a boy I was watching the dying bed of my maternal grandfather, aged eighty-four, who had been afflicted with right hemiplegia and aphasia a few days previously. Of all medical terms I was absolutely ignorant, but that variety of breathing struck me much—as it was likely to do—and after observing several long pauses I exclaimed to the nurse, when he had not breathed for over a hundred seconds, "Surely he is gone now!" To my surprise the practised old observer replied, as she looked up from her knitting, "Oh, lor', no, sir; they never goes that way!" So far as my own experience teaches me she was right; but I have not yet met with a satisfactory and thoroughly scientific explanation of Cheyne-Stokes' breathing nor of its prognostic value. Of course, to give the proper name to a disease is to place it where it should be nosologically, "at home" and understood; but medicine is not a science yet sufficiently "ordinated" for this thing to be done, and so we grope about and "gather dust and chaff" with little chance or hope of turning them to value; and instead of making this the matter of most serious investigation and finding the true relation between the new "group of symptoms" and those others which form the central facts, the backbone and whole skeleton of pathology, we lay hold of the first piece of red tape ready to our hand, tie up the group of symptoms in a bundle, and label it Brown, Jones, or Robinson's disease.

A suggestion was made not long ago by one of our most able and energetic thinkers that some apparently new diseases might perhaps with advantage be named provisionally after the patients who exhibited them. This certainly had the merit of originality, as it struck me at the time I heard it; but in looking at my case-books I found that already I had several times adopted it, in so far as to say, "Case X Y Z resembling in particular features that of A B C," or some other very familiar patient. But nothing could be worse for scientific medicine than any such retrograde proceeding. If there be any danger of nomenclature resolving itself into a catalogue of the names of distinguished pathologists, as has been suggested, it would be a still more terrible disaster if a differentiation should be carried still further on this dual system of nomenclature, and that the student should have to be examined in his knowledge of the "George Brown variety of Robinson's disease" or the "Max Schott's deviation from von Hopner's sign." At the very time that there is this increasing use of loose phraseology there is also—as is common enough in other departments of life—a marked tendency in the opposite direction, and that is to connote as diseases certain groups of symptoms by some short or long and often not very appropriate word or words, such as acromegaly, hypertrophic pulmonary osteo-arthropathy, appendicitis, pseudo-hypertrophic muscular paralysis, and others. There is abundant precedent for this; some are time-honoured and old enough to be allowed to live, such as pertussis, epilepsy, apoplexy, chorea, gout, and rheumatism, which have the merits of brevity and of meaning; but there have crept into ordinary conversation nowadays a number of expressions which aid us little or, as I think, not at all; and such words as gastrojejunostomy and as laparotomy do little more than lay us open to the satires of the playwrights of the last century in foreign countries and its predecessors in our own.

But whatever may be our failures—and they are small compared with our enormous successes—there is nothing that has happened during the past twenty years to be compared in importance, as I have already said, with the new revelations that have been made of the potency and pre-potency of life—the power of life in life—in health, in disease, and in its treatment. I allude, of course, to the interpretation of much of the functions of certain organs, the existence of which had been known for many years, but the utility of which had been absolutely unknown—for example, the pituitary body, the thyroid gland, the suprarenal capsules, and others.

The knowledge of the functions of the liver and the spleen has been gradually increasing for a long time, and only by slow degrees have the metabolic properties of these organs taken the place of the older ideas of secretion of bile and balance of weight. It has been, on the other hand, although the outcome of serious investigation, but also somewhat by a fortuitous concourse of thoughts and events, that the most astounding revelations of modern physiology have been made. What we have come to know amounts to this in general terms—that the absence of certain organs, of the functions of which until quite recently we knew nothing definite, leads to grave and diverse diseases of the body, whether this absence be brought about by surgical operation or by disease more or less individual or specific in its character, and that, such being the case, the supply of the material of that organ as food, or some part of it, as an extract, to be introduced into the blood, removes the symptoms, acts with great promptitude, and, I might say, almost with some violence of disturbance of the whole economy. Not only so, but these extracts seem to possess a power reaching far beyond that which was first found to be their almost anticipated result—that is, in so modifying the action of the heart and the intravascular pressure, in a manner and to a degree entirely unlooked for, and requiring much further investigation, in order to unravel the true nature of the functions of those organs in health, and the value they may have, by their products, on the processes and treatment of disease. As yet we are only on the threshold of still greater discoveries in regard to life, but we see, through the portal, ranges of facts which are trustworthy guides as well as sign-posts, and which will, we believe, lead us to a larger knowledge of those recondite processes of life in its most essential and characteristic features—namely, of the nutrition of all organs, of the way in which this is brought about, and of the inter-dependence of all tissues, so that, perhaps, in a far higher sense than we have ever realised before the truth may be revealed that "when one member suffers all the others suffer with it," and the reason of this may be explained. A very obvious consideration which should "give us pause" in self-congratulation is this, that as in past days the functions of different parts of organs—the kidneys, for example—were more or less clearly separated by physiologists, no longer with us now, so we have seen recently that only certain portions of other organs have the physiological effects just discovered, and thus that there may be in what we have regarded as much simpler organic components, even in quite simple tissues, some unconsidered element of function, some *sine quâ non* of healthy life, some missing link in the phenomena of life, so that it behoves us to keep the mental eyes wide open to clear away all films of prejudice or hasty complacency, to expect the unexpected, and so, without looking for it, to find our reward. Not less important than the matter I have just referred to is the recent development in "microbiology" and "all that therein is." The "germ theory" of the disease is not new. When it commenced and who has the credit of its begetting I do not know. Probably, like ancient and modern heroes, it had many parents and as many homesteads. It is quite clear that our own great Harvey entertained it, as may be seen by the following: "Let physicians cease to wonder [he says] at the manner in which epidemic, contagious, and pestilential diseases scatter their seeds and are propagated to a distance through the air or by some 'fomes' producing diseases like themselves in bodies of a different nature, and in a hidden fashion silently multiplying themselves by a kind of generation until they become so fatal, and, with the permission of the Deity, spread destruction far and wide among man and beast, since they will find far greater wonders than these taking place daily in the generation of animals." Years later it was a hobby ridden by many, but without much convincing proof. But even so late as 1866 we find that advanced pathologist, Dr. Edmund Alexander Parkes, saying, with regard to the etiology of influenza: "We find ourselves in the presence of the so-called fungoid theory of influenza," and, after discussing this matter at length: "It seems impossible at present to come to any conclusion as to the nature of the cause."

The most important fact with regard to recent microbiological research is the gradually increasing appreciation of the fact that these lower forms of life exert, not necessarily mischievous, but indeed benignant influences on the human body, and that although the mode of their operation is not fully explained they take part in healthy processes, assisting normal functions—nay, indeed, it would seem sometimes producing them and warding off the malign effects of other influences to which we are habitually exposed. These bodies, to which we are indebted for this aid, operate partly by their chemic action and partly by what we must call a vital process, and by their cultivation outside the human body and their modification by passing through other organisms can be made to exert a malign or a beneficial agency on man. It seems even in the range of possibility that at some time not very distant some other than "the ancient mariner" may apply to them the far-reaching words of Coleridge and exclaim:—

> "O happy living things! no tongue
> Their beauty might declare;
> . . . . . .
> Sure my kind saint took pity on me,
> And I blessed them unaware."

The third great revelation of the last twenty years is the wonderful protective and curative power of these living products. This, in a very wide sense, is not new. Of all the most powerful agents of destruction the most violent have been derived from "living" things; they are to be found in the animal and vegetable worlds, not in the mineral. In their most terrible malignity—such as in snake-bite, glanders, or hydrophobia—these need no human skill for their development; they are prepared in the laboratory of Nature, and, alas, are only too ready to our hand. Next to these come the poisons of stinging things, and after them the more slowly operating and less deadly animal infections; some with indeed beneficial influence, as "vaccinia"; others with local effects on the skin, but not often great disturbance of the general health. The vegetable kingdom can produce potent poisons, such as belladonna berries, aconite root and leaves, poppy juice, and the ignatian bean; but in order to render these more deadly the hand of man has to come in and prepare nicotine, strychnine, morphine, and the like, just as it may produce, from the mineral or quasi-mineral world, such potent agents as hydrocyanic acid, concentrated acids, and other dealers of destruction. The interest in these facts lies in the modern mode for their utilisattion. The great potency of living products has led to very fanciful notions in therapeutics; and there have been those who, to cure diseases of organs, have given portions of the same but healthy organs of animals or of man or other animals. Again, the idea has been pronounced that even excreta were useful drugs, and that the diseased organs of man might effect a cure of those supposed to be afflicted in like manner. Curious as some of these details are, they are of real interest to us only as they lead up, through inoculation for small-pox, to our own Edward Jenner's discovery of vaccination, and then, through the researches of Pasteur and Brown-Séquard, to our present state and plane of knowledge. It would seem now that there is scarcely any limit to what may be expected in the cure or prevention of disease; and the most striking of all phenomena is, to my mind, the probability of rendering an animal immune by the introduction into its organism of a healthy constituent of the body of another. This, if fully confirmed, will be the greatest veritable triumph of therapeutic and preventive medicine, instituted and guided by extended inquiry into comparative anatomy, physiology, and pathology. As in the human race or species there exist, as is well known, what may be termed "idiosyncrasies"—by which is simply meant that as a matter of fact some people, and some people's families, escape epidemic diseases, whereas they are especially prone to take others to which they may be exposed—so in the great economy of nature certain groups of animals have been shown to exhibit no capacity for "taking," or for even being "inoculated" with the poisons to which others are exposed, and from which they suffer, and that severely. It would seem, therefore, that use may be made of these animals more or less naturally immune from certain maladies, and that their immunity may be partially conferred on man. Quite recently a communication of the greatest importance has been made on the rendering of animals immune against the venom of the cobra and other snakes, and on the antidotal properties of blood serum of immunised animals. This subject has occupied attention during the last six years, and we must all look forward with expectancy and hope to the possible and probable diminution of a great national and imperial calamity.

The outcome of all that I have been saying is this: that the scattered fragments of knowledge and "guesses at truth" of many years have been gathered into a focus during the past twenty-five years; that the vegetable life, extracting

from the mineral world the materials it needs for growth and production of powerful agencies for good in the form of food and medicines, and for evil in the form of poisons, has given itself up to the growth of animal life, with its much more complex organs, and for the cure of ills once thought beyond the reach of human aid; but that, thanks to man's scientific ardour and industry, it has again shown itself to be our servant, our helper, and our protector. These are not dreams of the study, they are facts of the laboratory and of daily life; and in using that word "life" again I must endeavour to emphasise still more forcibly upon you my urgent belief that it is to living agencies and their employment that we must look for help in the care of infancy, the conduct of education—moral, mental, and physical—the training up of character as well as of limbs. That it is the guidance of living functions, in the choice of living occupations, be they either of hard work or of amusement; it is to these we must appeal if we would see the *mens sana in corpore sano;* and then it will be to these that we may confidently look for help when the inroads of age or of disease are at hand often to cure us of our trouble; or, if not, to give us rest and peace. It would be absurd in me, now and here, to attempt to say in what this potency of life exists. It is enough for us to recognise its existence, rejoice in its marvellous energy, and anticipate still more from our investigations of its modes of action; but I cannot help feeling that, however far we go in our research into the arcana of nature, one of our ablest neurologists, who has gone very far, is right when he says: "Search while you may, with eyes, however aided and however earnest, that which we call 'life' eludes our search and resists our efforts. We must be content with what knowledge we can gain, secure or insecure, and while using it as best we may, should realise in all humility how much there is we cannot know, and yet we cannot doubt."

There are three aspects of life to which I wish to make further reference, because it seems to me very important that this Association should at some of its annual meetings direct special attention to their consideration. And first a few words on "professional" life. As physicians and surgeons, however numerous, we do not constitute a "body" of men unless we have some one prevailing spirit common to us all. The profession may include its thousands and tens of thousands, but it is a crowd, a multitude, or shall I say a "mob," unless there is in it an *esprit de corps;* and, thanks to our great seats of learning, our universities and colleges, we have developed this uniting spirit now for many years. But our own special colleges of physicians and surgeons, our medical societies, and especially this vast Association, have done more within the last fifty years to give real, unifying life to its individual members than was possible, or even expected to be possible, by our forefathers. There are sixty branch associations in direct communication with our colossal trunk, spreading themselves not only over the United Kingdom, but to the remotest parts of our dominions; and these are all equipped with efficient officers, holding meetings all over the world, discussing the really important topics of the day, and adding their contributions to the sum of knowledge through the pages of our quite remarkable journal. Now this is very encouraging and very hopeful, but it entails, as it is bound to do, great responsibilities. That so large a body of men should be banded together under one common name means that they have some common purpose, and some common plan of coöperation to attain it. What that purpose is we know—namely, to render our profession of the highest service, not only to the individual, but to the State, by taking our share and giving our advice in the making of our laws, so far as they affect us, as members of our profession; by the regulation of our charities, the guidance and control of labour, the care of the pauper and the pauper child, the lunatic and the quasi-lunatic, or the habitual drunkard; by the care of our poorer brethren; by the advance of scientific researches, and especially of those that require combined efforts and combined funds for their prosecution; by the promotion of useful and stable literature; and by the elevation of all that constitutes the education of the man of science, the physician, the surgeon, or the guardian of the public health. These noble purposes cannot be achieved, nor have any of them been carried to any useful extent, without self-sacrifice, as well as the sacrifice of time, without a consideration of the views of others as well as an assertion of one's own; without respectful regard to the feelings and positions of our colleagues, as well as a due estimation of those which we may occupy; without patience as well as work; and an all-pervading sense of hope in the midst of trying times and in the darkest hours. One thing, in addition, we should all most strenuously try to do, and that is to avoid waste of time. We may use it or sacrifice it freely, but we cannot afford to throw away one moment, whether it be on personal ends, forlorn hopes, foregone conclusions, or threshed-out heaps of seedless faggots. It is in this spirit, I am sure, that we begin our vast meeting in the metropolis, and if we but continue along the lines of conduct our Association dictates, and if in the control of the affairs of our daily life we always bear in mind our belonging to a noble profession, and to a great Association of fellow-workers for its benefit and for the benefit of mankind at large, we may hope to see that—useful as it may be now—at some future assembly of our fellows it will not be found necessary to constitute a special section for the discussion of those questions which fall under the category of ethics.

Outside our professional life, but closely mixed with our daily work, is the "social" constitution, or, as some would call it, the "environment" in which we have "to live and move and have our being." Certainly it has changed much within the last twenty years, and it would be impossible for me to dissect it now and say in what ways we have advanced and in what others we have either retrograded or gone far, far out of the beaten track. The changes on all hands are pressing, importunate, and, I might say, overbearing. They are not seen in the assemblies of such reverend bodies as the Royal Society, the Colleges of Physicians or Surgeons, or in the higher courts of our universities, but may be met with in the courts of law, the park, the theatre, the concert room, the school, the public assembly, the drawing-room, and, last, and worst of all, in the home. It would seem as if "reverence, that angel of the world," had from some regions taken flight, and that in her place were idols, or mocking shadows, or gorgeously appareled lay figures. This absence of reverence shows itself everywhere, but perhaps it is possible to classify even such a negative quality and put its leading features under three great categories: (*a*) reverence for all that constitutes the religious element in life; (*b*) for that which is the groundwork of "social" propriety, and I may say even of decency, as our predecessors would have thought; and (*c*) for the constituted order of relative dignity in "family" life. Thus, much that now passes for wit, humour, cleverness, or fine and advanced thought may be easily resolved into offences either against the religious sense of others—that is, trespasses in the direction of profanity—or against the long recognised standards of propriety, in topics of conversation, in literature and art; or sins in many directions against the widest meaning of the old commandment, "Honour thy father and thy mother." If all shades of profanity, impropriety, or rudeness were eliminated from what now passes current in books, in plays, and in conversation, we should, I think, often find little or no humour left, but only a vapid attempt at seeming cleverness, or at best some silly pun. Even the epigrammatic style of writing and talking at which there is so much attempt, especially in the conversations detailed in the modern novel, has generally lost all real point and excellence, and in most instances has degenerated into clumsy efforts to be smart and unintelligible or to gild the refined gold of the setting of that priceless gem of humour when natural and spontaneous, the true "Irish bull." The sparkle of the humour is lost, there is a semblance of a paradox, and wrapped up in this an obvious and often intentional untruth. If this were rare we could let it alone, least of all could we think it worthy of notice in the meeting of this Association; but it is not rare—our literature is positively flooded with this senseless and misguiding nonsense, even science is sometimes dragged into its degrading service, and the profession of medicine has not escaped its touch. If we ask ourselves, "What is the meaning of this and whence its origin?" I do not think we shall have very far to travel. Of late years there has been imported into our country a phrase which, in my humble opinion, is abominable in itself and in its power for evil. I will not quote it; but let me ask you if you do not think that this idea of the approximation of the "end of the nineteenth century," with the nonsense that has passed into its literature, has not had much to do with it? It may be that the notion has arisen in some minds that when its "crack of doom" has come, and they wake into a new epoch, follies will be left behind, no more records will have to be made or broken, wild oats will be trampled under foot, and no more will be sown; that there will be an end to the

frivolous talk of the last decade, that a "new earth" will be here for us to tread, and that if there be any idea of a heaven lurking in such minds, there will be a "new heaven" also. It has seemed to me that something like these notions have passed current in many circles, and have been held to excuse what would otherwise be not only inexcusable but intolerable.

Now, gentlemen, it is against all this absolutely unscientific and unphilosophical verbiage that, I think, we, as members of the profession of medicine, should utter our strongest protest. Nature does not progress by leaps; the terms, limits, and boundaries of time are convenient arrangements we have made for ourselves; to pass them may make or destroy some legal powers or exemptions from responsibility; but they have, in themselves, nothing whatever to do with the essentials of our individual and domestic life. When the last stroke of the bell has knelled in the midnight of London the last hour of 1899, do we really think that either here or there or anywhere it will carry with it any substantial meaning or any wholesome lesson? I cannot for a moment believe it will. Old and young people will die in the awakening as in the dying year; babes will be born in the one century and in the next; there will be bridal feasts and funeral marches; wisdom and folly; sickening accidents and more sickening crimes; there will be "new women" and "new men"; but there will also be "old women"—and those of both sexes—and "old men" to tell us of the far better days when they were young and everyone was wise. As physicians and surgeons we can, I think, do much to counteract this, as it seems to me, growing tendency of the present day. In the nursery, in the schoolroom, and yet a little later we would give advice, and that of useful sort. Little girls and little boys may strip themselves as high as may be, and paddle on the sands of the salt sea shore with relative impunity, for they rarely venture into water over ankle-deep; but when a few more years have passed, and, exposed as society now sanctions, they roam on another shore of that "Ocean of Time whose waves are years, treacherous in calm and terrible in storm," they may be overtaken by the tide they have courted, and to them "Life be never the same again." There is still the one great and greatest relationship of life to which I will address myself, but only for a brief period—I mean the conduct of our profession to the "religious" element in our nature. Here we have nothing whatever to do with creeds, be they hoary with age or flushed with the bloom of youth; all that I mean is that we, members of the medical profession, have to deal with those to whom these creeds mean much, and are, with what they entail to many, the be-all and end-all of existence. I am not thinking for a moment of the few substitutes proposed for religious faith, but referring only to that which relates those who entertain it to the Higher Power, the source of Revelation and of good and hope, far other than is to be found in themselves or in Humanity, be it in the Future or the Past. I am sure that in giving the help we hope and ought to give to suffering and sorrowing man we shall do nothing worthy of the name unless we realise, and that to the full, the importance of this factor in our lives and theirs; and so guide its operation as to help it to chasten, subdue, control and comfort those to whom it is the minister that they feel to be sent from God to help them in their passage through this region of passing shadows to that of realities which are abiding things.

Acting in this spirit in our professional life, and in our relation to the social and religious lives of our friends and patients, we may, I think, take courage, and, entertaining a larger hope from holding a larger view of life, adopt the words of the Laureate of the first half of this century and exclaim:

> "Look forth, my soul!
> (Nor in this vision be thou slow to trust)
> The living waters, less and less by guilt
> Stained and polluted, brighten as they roll,
> Till they have reached the eternal city, built
> For the perfected spirits of the just!"

PRESENTATION.—Dr. Francis Wm. Clark of Lowestoft has been presented with a testimonial from the St. Margaret Lodge of Ancient Free and Accepted Masons, No. 1482, Grand Lodge of England, on the occasion of his leaving Lowestoft for Hong Kong, which consisted of an artistically illuminated address, expressing the cordial appreciation, by the Worshipful Master, Past Masters, Officers, and Brethren, of Dr. Clark's valuable services during his membership of the Lodge.

Address in Medicine.

Delivered at the Annual Meeting of the British Medical Association at London, July 31st, 1895,

BY SIR WILLIAM BROADBENT, BART., M.D., F.R.C.P. LOND.,

PHYSICIAN TO AND LECTURER ON CLINICAL MEDICINE AT ST. MARY'S HOSPITAL, AND PHYSICIAN IN ORDINARY TO H.R.H. THE PRINCE OF WALES.

THE GROWTH OF THE ART AND SCIENCE OF MEDICINE.

MR. PRESIDENT AND GENTLEMEN,—The heavy responsibility of delivering the Address in Medicine on the occasion of the visit of the British Medical Association to London has been placed upon me by the Council of the Association. The opportunity of addressing so many colleagues as are assembled here rarely happens to a medical man. The honour attending it is very great, and nothing short of his best thought and endeavour ought to satisfy his sense of what is due to the occasion. It was under the influence of this feeling that I entered upon the difficult task of deciding what I should bring before you to-day, and it seemed to me that it was better that I should resist the temptation to take up some special subject or a topic of local or temporary interest, and once more go back to the past and see what lessons it has for us at the present day. I propose, therefore, to consider the growth of the art and science of medicine. I place the words art and science in this order advisedly, for the art of healing is one of the primary needs of social organisation, however rudimentary, and preceded by many ages the development of anything which could be called a science of medicine. So far, moreover, the art of healing has always been in advance of science, firmer in its basis and more secure in its principles, and even when medicine as a science has realised our highest aspirations the end and aim will be art—that is, skill in the recognition and treatment of disease. At the same time, it is true that until science began to throw light on its path the art of healing struggled blindly on its way, and its advances were intermittent and slow, with long intervals in which there were stagnation and retrogression. All true progress in medicine has consisted in the application of the results of scientific investigation to the facts of observation.[1]

At whatever period of the world's history and at whatever stage of civilisation we may contemplate the physician engaged in combating disease, there will be recognisable three distinct factors in his work—his power of identifying disease, the remedies at his command, and the ideas by which he is guided in the employment of these remedies. The first rough and imperfect identification of the more conspicuous forms of disease was scarcely worthy of the name of diagnosis. Anatomy, which is essential to the localisation of morbid conditions, was scarcely known; no shadow of comprehension of physiological or pathological processes entered into the conception—it was simply the attaching of a name to an assemblage of symptoms, the course of which, however,

[1] In my first sketch of this address I was tempted to use that comfort-word evolution, but I found this term appropriated on every side, and employed to connote such a variety of modes of progress that my poor effort would have been lost in the crowd. Besides, a very little reflection showed me that no such process as "progress from the general to the special," which is what is really implied by the term evolution, can be traced in the history of medicine, but that, as Mr. Balfour says: "Assuming, as we do, that knowledge exists, we can hardly do otherwise than make the further assumption that it has grown, and must yet further grow. In what manner, then, has that growth been accomplished? What are the external signs of its successive stages, the marks of its gradual evolution? One at least must strike all who have surveyed, even with a careless eye, the course of human speculation: I mean the recurring processes by which the explanations or explanatory formulæ, in terms of which mankind endeavours to comprehend the universe, are formed, are shattered, and then in new shape are formed again. It is not, as we sometimes represent it, by the steady addition of tree to tree that the fabric of knowledge uprises from its foundations. It is not by mere accumulation of material, nor even by a plant-like development, that our beliefs grow less inadequate to the truths which they strive to represent. Rather are we like one who is perpetually engaged in altering some ancient dwelling in order to satisfy newborn needs. The ground plan of it is being perpetually modified. We build here, we pull down there. One part is kept in repair, another part is suffered to decay; and even those portions of the structure which may in themselves appear to be quite unchanged stand in such new relations to the rest and are put to such different uses that they would scarce be recognised by their original design."

was watched with great sagacity. How remedies were first discovered and how the properties and uses of so many of them as were handed down from remote antiquity were known is matter for amazement. Animals are credited with instincts which direct them to the consumption of certain herbs or mineral substances when their health is deranged; the instincts of the primitive man also must have applied to remedies as well as to food, and experience of their effects must have been accumulated and transmitted, embodied frequently in legend or superstition, as part of tribal knowledge. Of the infancy of medicine properly speaking we know nothing. Individual acts of healing are related in the Old Testament, and the treatment of wounds is described by Homer; the Chinese from remote antiquity had a system of medicine, and medicine has a place in the Vedas; but in the works of Hippocrates, the earliest medical literature which has come down to us, we are at once introduced to the theory and practice of the art of healing at a considerably advanced stage of development. Already there were rival schools of thought and treatment, and disease was discussed with extraordinary acumen from opposite points of view both as regarded its nature and phenomena. Bleeding was in everyday use, not by any means as a routine fashion, but with judgment; cupping also was practised. The virtues of opium were known, and purgatives of various kinds, chiefly irritating and violent, and emetics were familiar remedies; enemata and suppositories and pessaries were employed, and fomentations and poultices in great variety were applied. Hippocrates, whose writings embody all our knowledge of ancient medicine, was born about 460 B.C. He was a contemporary of Socrates, Euripides, and Aristophanes, and was a worthy representative of medicine at that brilliant period of Greek literature and intellect called the age of Pericles. It is true that his knowledge of anatomy was rudimentary, and that his physiological ideas were totally wrong, but he has left of himself the picture of a sagacious observer and wise physician. He was the inheritor of the knowledge and traditions of the school of Cos, and another source of information by which he had profited was the training establishments of athletes, where the influence of diet, gymnastics, and baths on health and vigour was carefully watched. His attitude of mind was towards the study of disease as such, rather than the differentiation of distinct diseases. Refinement in this latter direction had obviously been carried much too far by the school of Cnidos, which he criticised and opposed, where symptoms were looked upon as separate morbid entities. His distinguishing merit, however, was that he was guided by observation and not by theory. Hippocrates could not, any more than his contemporaries or successors, or than we ourselves, escape the dominion of theory; but his theories were generalisations from observed facts, and not deductions from preconceived ideas or so-called first principles. The doctrine with which his name is associated, that of the coction of humours and of critical days, for example, is essentially a generalisation from the natural history of certain simple diseases. In coryza or bronchial catarrh there is a watery acrid running from the nose, or scanty viscid expectoration with obvious constitutional disturbance. A change in the character of the secretion is attended with a remission in the symptoms, and after the discharge of more or less muco-purulent matter there is a return to normal conditions. Something of a like kind is observed in the urine in fever and in the stools in diarrhœa. For the accomplishment of these changes a certain time is required, which, when ascertained in each class of disease by careful observation, gives the critical day. The facts were essentially facts of the natural history of disease. The theory evolved as an explanation of the course of events, and applied in the elucidation of disease of which the processes were not patent on the surface, was that some one of the four humours, the due balance of which constituted health, had obtained predominance and set up disturbance, general or local; this was contracted, elaborated by the animal heat, increased for the purpose, and qualified by admixture of other humours, and so brought into a condition in which it could be expelled and got rid of. Hippocrates, from this subordination of theory to observation, from his careful study of the causation of disease, not less than from the lofty sentiments and clear judgments contained in his writings, remains, and must ever remain, the model physician.

During the 500 years which separated Galen from Hippocrates the centre of gravity of the civilised world had shifted. Greece, shattered by conflict between its different States, had succumbed to Macedonia. Alexander had conquered Asia and then died. On the ruins of his empire Rome had gradually risen and when Galen lived had extended her rule over Greece, Asia Minor, Egypt, and the southern littoral of the Mediterranean as well as over Gaul, Spain, and Britain. There had been time, however, for the development of a high degree of intellectual activity and literary culture under the Ptolemies in Egypt, and Alexandria had become a great centre of learning. Here marked advances were made in anatomy, and dissection was practised on human bodies as well as on animals. Herophilus between 305 and 280 B.C. left his name to the confluence of the sinuses of the dura mater; Erasistratus, a contemporary, recognised in a crude way the motor and sensory functions of the nerves; Chrysermes, 240 B.C., writes on the pulse, as does also Heraclides, 230 B.C. Medical writings date from Alexandria as late as 170 A.D., but the school had long lost its authority, and Rome henceforth attracts the highest medical talent. The physicians who first made a name in Rome are Greeks—Asclepiades, the friend of Cicero, and Galen himself. Celsus, however, who comes between the two, writes in Latin. Galen, who was born at Pergamos A.D. 130, as is known to all of you, dominated medical thought for 1500 years, and if it was inevitable that authority should exercise such undisputed sway for so long a period it was perhaps fortunate that it derived from Galen. He was in spirit a follower of Hippocrates and the basis of his ideas on disease and its treatment was observation. His keen and active intellect and fertile imagination, it is true, led him to theorise on every conceivable subject; but the impression left as to his character by reading his numerous works is that of an acute observer, of remarkable ingenuity and profound judgment and excellent common sense. He dissected diligently and thoroughly, but mainly monkeys rather than the human subject. Taking this into consideration, his writings on anatomy were wonderfully complete and exact. They held sway till the time of Vesalius. He finds the most ingenious reasons, often far-fetched and preposterous, for the form, consistence, and relations of all the various organs. In respect of anatomy his knowledge was incomparably superior to that of Hippocrates. He experimented on the spinal cord and on the nerves, and knew that they subserved motion and sensation—knew even that there were motor and sensory nerves distributed to the muscles and skin respectively, discovered the part taken by the recurrent laryngeal nerve in phonation, and, although his physiology is chiefly represented by fanciful teleological explanations of the uses of the different parts and organs, he made noteworthy additions to the knowledge of functions. Apparently Galen was the first to establish the fact that the kidneys secreted the urine, and that it was conveyed by the ureters to the bladder. At any rate this was disputed in his time, the objection being that the urine could not be forced back through the ureters, and could not, therefore, have entered by these canals. The bladder was supposed to attract the urine. He demonstrated it by tying the ureters; and in the course of his experiment he almost stumbles on the discovery of the circulation, for he maintains that blood is carried by the renal arteries to the kidneys in order that its watery part may be filtered off. The traditional ideas of the origin of the veins and of the flux and reflux of the blood in them, however, blinded him to this and other evidence, and he believed that the arteries contained air, though he maintained that they also contained blood. A frequent reproach brought against Galen is that he spoke of the interventricular septum as perforated, so as to allow the passage of air between the two ventricles, against the evidence of his senses; but an excuse can be found for him in the fact that invisible communications had always been supposed to exist between the trachea and the arteries by which air passed from one to the other. He can only have meant similar invisible perforations, the orifices of which he would think he saw in the depressions which the walls of the ventricles present. To convey even the faintest idea of the additions which Galen made to medical knowledge would require more than all the time at my disposal for this address. He wrote more than a hundred treatises on various subjects, including six on the pulse, and, while giving extravagant descriptions and making fanciful comparisons, he pointed out distinctions and characters which have been verified by the sphygmograph. His treatise on local affections is remarkably true to nature, and no more impressive lesson on the value of observation, even when unaided by science and experiment, can be afforded than by realising how fresh and vivid and modern his descriptions of diseases

and symptoms sound. His diagnosis, for example, between hæmatemesis and hæmoptysis and other forms and causes of blood-spitting leaves little to be desired. I cannot deny myself the pleasure of quoting a passage which illustrates his robust common sense. He is distinguishing between the different causes of ischuria:—"Suppose the patient to be a child who has previously presented symptoms of stone, watery urine charged with sandy deposits, the child continually squeezing the penis, which is flaccid or unaccountably erect; then sudden stoppage of urine takes place. It may be reasonably concluded that the stone is lodged in the neck of the bladder. Place the child on his back, the hips a good deal raised above the rest of the body; then shake him in different ways so as to make the stone fall out of the canal. After these proceedings tell the child to try and pass his urine. If the attempt is successful and the urine flows you will be satisfied that you possess the exact diagnosis of the cause, and that at the same time you have found the proper treatment. Should the retention persist you will shake him again still more forcibly; if after this it still persist, then with the catheter you will push the stone from the neck of the bladder to reopen a passage for the urine." It might be my surgical colleague, Mr. Jonathan Hutchinson, who was speaking.

The doctrine specially associated with the name of Galen is the humoral pathology accepted by him from Hippocrates and developed. The humours are phlegm, blood, yellow bile, and black bile; and all diseases arise either from a change in the quality of these humours, or from a predominance of one or other of them, or a flux of some particular humour to a given part. But, like Hippocrates, Galen is first of all an observer, and his theories, faulty as they may be, are generalisations from observations and not deductions from *à priori* assumptions as to the nature of things. Both Hippocrates and Galen rejected the doctrine of the sect of empirics, who declared that experience alone, without reasoning as to the nature of relations of observed phenomena, and without reference to causation or to the influence of climate, season, age, sex, character of constitution, or mode of life, was the only safe guide in the treatment of disease. Hippocrates still more emphatically rejected the pseudo-philosophical deduction of rules of treatment from the abstract qualities, hot and cold, dry and moist, acrid and sweet; and Galen in his turn rebutted the methodic doctrine of Asclepiades and Themison which he found prevailing in Rome, according to which all diseases were referred to constriction and relaxation and treatment consisted in relaxing and astringing.

[Sir William Broadbent referred to various Roman physicians living during the Western Empire. He mentioned the early Italian universities, together with the Arabian and Byzantine medical schools. He then passed in review the Middle Ages and the sixteenth century and continued:]

If we take Sydenham, who wrote between 1666 and 1680, and Boerhaave (1668–1738), the best and most representative physicians of their respective times, we find that while they have fully realised the fact of the circulation of the blood it had exercised remarkably little influence on the theoretical views which they entertained with regard to disease or on their practice. Sydenham may be called the English Hippocrates. He was the last and the best of the pure Hippocratic school, unless, indeed, we include Trousseau. He was above all a careful clinical observer. If time had permitted it would have been interesting to compare his knowledge of disease, the remedies he employed, and the theories he entertained as to the causation, nature, and treatment of disease with those of Hippocrates and Galen, on the one hand, and with those of the present day on the other. With regard to remedies the great acquisition of Sydenham's time was bark, which had been brought over from America by Jesuit missionaries about the middle of the seventeenth century. After accepting it cautiously, he employed it freely but judiciously, laying down rules which have been found useful ever since. Mercury was of course in common use, and antimony was an acquisition of which he thought highly. Epidemics he attributed to influences emanating from the earth, and he considered that different years and the various seasons impressed different characters upon the prevalent diseases, in which, in fact, he followed Hippocrates. Other diseases were due to vitiation of the blood; Nature was engaged in the expulsion of the peccant substances. It was the business of the physician to coöperate with Nature, and his art consisted in recognising the indications presented by the symptoms and the direction in which he must act in order to aid in restoring the normal equilibrium. "As for the physician," he says, "all his philosophy consists in following the history of diseases and in knowing how to employ the remedies which experience has shown to be the most efficacious for their cure, and at the same time he ought to follow a method which is founded, not on chimerical speculations, but on a common and natural way of reasoning." Again: "They deceive themselves grossly who imagine that the principal defect of medicine is that it lacks powerful and efficacious remedies which chemistry alone can furnish. On the contrary, what is most wanting to medicine is not to know the means of fulfilling such and such an indication, but to know precisely what the indication is which has to be met. The smallest apothecary's apprentice will tell me in five minutes the drugs I must employ to vomit or purge, to sweat or cool a patient; instead of which to learn with equal certainty when and in what case I ought to employ such and such a remedy in different diseases requires one to be extremely well versed in the practice of medicine." Boerhaave, whose principal works date from the first years of the eighteenth century, was also a great physician, and exercises, by his writings and through his enthusiastic follower and commentator, Van Swieten, a powerful and lasting influence on medical thought in his day. He evidently had great experience and was successful in practice. He had the great merit, too, of teaching at the bedside. He seems to have thought that with the discovery of the circulation and the advance in botany, chemistry, physics, mechanics, and clinical experience, medicine had in his day attained to certainty and almost perfection, but his theories were drawn largely from the assumptions and imaginations of the iatro-mechanical school.

Nothing could more confirm us in our respect for the genius of Hippocrates and the good sense of Galen than to attempt to follow the fanciful extravagancies which from time to time partially displaced their humoral pathology and have been known as the iatro-chemical and iatro-mathematical or mechanical theories. Every discovery in alchemy, as early attempts at chemistry were called, and every new development of mathematical or mechanical science, was in turn seized upon as affording the clue to the causation and treatment of disease. Even the circulation of the blood and the early knowledge of structural anatomy were turned to perverse theoretical use. Just as for the methodics in the time of Galen every disease was referred to constriction or relaxation of parts, and the remedy sought in relaxants or astringents, so at one time all diseases were ascribed to acidity or alkalinity of the humours or to fermentations; or again to obstruction of pores or minute vessels and inspissation of liquids. The contraction of muscles was due to a sudden swelling of their substance set up by the nervous juice or spirits conveyed by the nerves. Respiration was for the purpose of giving a due comminution to the blood by the movements of the lungs. Fever was explained by an acrid nervous juice, which excited the heart to more frequent and forcible action. Later still the physiological discoveries of Haller, the establishment of the principle of irritability as a property of living tissues, and the employment of the term stimulus led to another general theory of disease—the doctrine that fever and inflammation were the result of over-stimulation, which was attended by a return to extravagant and indiscriminate bleeding. From this there was the Brownonian reaction to the contra-stimulant doctrine, with equally indiscriminate, if not equally mischievous, administration of stimulants. Even the revelations of morbid anatomy and pathology were at first made the basis of a general doctrine relating to disease—the organicism of Broussais; everything was referred to gastro-intestinal inflammation, and again venesection was the universal remedy. From this time the character of the work which I have set before myself changes. Up to the present we have only been able to register accretions of knowledge and follow interpretations more or less close to the truth which were advanced in the absence of science. We have now reached a point at which we were entitled to say that ultimately science is to be our guide. Therapeutics will be scientific in proportion as the operation of remedies is referred to physiological laws. Physiology, in turn, is scientific in proportion as vital actions and processes are referred to physical and chemical laws. What remains for us to do is to follow the rapidly converging lines by which this consummation is being approached. Taking up our parable again at Harvey's great discovery, we find that it remained comparatively barren until it was supplemented by Lavoisier's explanation of the process of respiration, and, indeed, almost until a further impulse was given to thought and experiment by a diagnosis of diseases of the

heart by means of physical signs. Then an important step was made in the elucidation of the mechanism of the circulation by the discovery of the vasomotor nerves, and the demonstration of the contraction and dilatation of the arterioles in obedience to stimulation of these nerves, by Claude Bernard. Almost concurrently the regulatory apparatus of the heart's action through the vagus and sympathetic was identified by the brothers Weber. These discoveries were followed out in detail by a multitude of experimenters, and the adjustment of the supply of blood to local demands for the purposes of nutrition, secretion, muscular action, and the response of the heart to the general requirements of the system, to excitement, emotion, exercise, are now thoroughly understood. It is only comparatively recently that the blood-pressure in the arteries and veins, and in different parts of the arterial and venous system, first measured tentatively by Stephen Hales, has been experimentally investigated by the graphic method by Ludwig and his school and made available for clinical work through the sphygmograph by Marey and his followers.

The relative share of the heart and vessels in the production of variations in the blood-pressure was thus made clear, and then for the first time the complex and multitudinous indications afforded by the pulse could be understood. At the same time that the lacteals and lymphatics were discovered the structure of the glands was investigated by Glisson and Wharton, and the study of minute anatomy of the tissues generally was initiated by Malpighi, Ruysch, and Leeuvenhoeck, who demonstrated the capillaries by injection and recognised the corpuscular elements of the blood by means of the first rude form of microscope. The invention of the microscope opened another avenue to knowledge, and every improvement in this instrument and in the preparation of structures for examination has been followed by a further penetration into the secrets of organisation and a better comprehension of function. Staining, for example, has not only facilitated the identification of different structures in their minutest ramifications and most intricate combinations, but has made it possible to distinguish between active protoplasm, in whatever form it may be found, and the material formed by it, and has revealed essential differences between cells otherwise apparently alike in all respects. Schwann and Schlerden laid the foundation of histological science by the discovery of cells as the structural unit, and when the knowledge of minute anatomy had reached a certain point the results were systemised by Bichat, who by his general anatomy prepared the way for the cellular pathology of Virchow. Side by side with advancing knowledge of structure has come increasing comprehension of function. Physiology from first to last is based on experiment. It was by experiment that Galen proved that the kidneys secreted and the bladder retained the urine, and learnt the motor and sensory functions of nerves, and that Bell, again, nearly 1700 years later, discovered that the posterior nerve roots were sensory and the anterior roots motor. It was, of course, by experiment that the circulation of the blood was established. The advances made by Haller (1708–77), again, in the elucidation of vital action were based on experiment. It was not, however, till the example was set by Majendi that experiment was systematically employed in the investigation of all the functions. He was followed by Claud Bernard, to whom we owe our knowledge of the vasomotor apparatus and its influence on secretion and nutrition, and with whose name is associated the glycogenic function of the liver, which has been rudely questioned if not overthrown by Pavy; by Ludwig, who elucidated the dynamics of the circulation; by Marshall Hall and Brown-Séquard, who led the way in the experimental investigation of the functions of the various parts of the nervous system which has now reached such a wonderful stage of development. [Sir W. Broadbent here referred to investigations upon respiration, coupling with physiologists the names of Priestley and Lavoisier. He proceeded:]

So far we have been chiefly concerned in following the growth of knowledge relating to healthy structures and normal functions. Facts relating to the effects produced by disease on the different organs could be collected, and the symptoms attending the progress of disease and revealing its nature could be recorded, independently of any comprehension of the processes by which morbid changes were effected. Such accumulation of facts and such observation of symptoms were indeed necessary before study and experimental investigation of morbid processes could be undertaken.

[Sir William Broadbent went on to mention Morgagni, Virchow, Paget, Cohnheim, the use of the microscope and stethoscope, Jenner and vaccination, and the use of the clinical thermometer. He proceeded:]

Another physiological discovery of far-reaching importance to which clinical observation has led up has been the definite determination of the fact that the ductless glands, and probably other glands, supply to the blood some material which plays an important part in the nutrition of the tissues, stimulating or modifying the cell activities. Few histories are more interesting than that of the successive steps by which extract of the thyroid gland was ascertained to cure myxœdema, beginning with the observation that cretinism was associated with goitre, and that the essential feature of this affection—myxœdema—could be induced by extirpation of the thyroid. Upon this, experiment showed that the cause was not the accumulation in the blood of some substance which ought to have been withdrawn from it by the gland, but the absence of some material which the gland supplied. Older than this, and even more important, was the discovery of the part played by micro-organisms in certain diseases. Here, again, clinical observation and reasoning had anticipated Pasteur. The communication of disease from person to person, the incubation period which intervened between the exposure to contagion and the development of symptoms, the successive stages which these symptoms followed and the reproduction in the individual of the poison, had given rise to the zymotic theory, according to which the history and course of these diseases were comparable to fermentation following the addition of yeast to a saccharine solution. Experimental demonstration, however, is now demanded, and the place of theory in medicine is only to suggest and to guide investigation. It was not, therefore, until Pasteur—by the successive steps of his work on the various fermentations on pébrine, the city-borne disease, and on malignant pustule and splenic fever—had demonstrated the powers of micro-organisms, and Lister, by that infinite capacity for taking pains—which, when combined with true insight, constitutes genius—had made the totally unexpected and unforeseen extension of the germ theory to surgical affections; until Koch, again, in 1882, had identified and made visible the corpus delicti of phthisis in the tubercle bacillus that the microbic origin of these diseases was fully admitted and the sweeping character of this new department of knowledge was recognised. We may even claim for clinical observation that vaccination was a standing illustration of the attenuation of a virus, and that it anticipated and pointed the way to the processes by which Pasteur has attained such sensational results in hydrophobia, and by which we hope and believe that other diseases, such as scarlet fever and the fevers generally, will be robbed of their terrors. The bounds of the zymotic theory, properly speaking, have, however, been overpassed, and, indeed, swept away, and diseases such as tuberculosis are found to be caused by micro-organisms which appeared to have no analogy with those originally grouped under the name; but science has pushed the analogy between disease and fermentation still further. Just as alcohol is the potent product of the torula, so it has been ascertained that the products of bacteria are the agents which give rise to the constitutional disturbance of disease, and these products have been separated and identified. Not only so, but just as alcohol, when it has reached a certain proportion, arrests further multiplication of the torula, so do the products of bacteria bring their action to an end, and advantage is taken of this in the antitoxin treatment of diphtheria, which has recently evoked the admiration and challenged the gratitude of mankind. We have still to ask, What is the bearing of all these advances of knowledge on therapeutics, which, after all, is the object of our lives? Until the last few years it has not been easy to answer this question by instances of any very extensive applications of physiology to the treatment of disease, and morbid anatomy was at one time a stumbling-block in the way of therapeutic effort. The pathologist, pointing to an excavated lung or cirrhosed liver, would ask the physician what he could expect to do with drugs against such conditions. But that stage has passed away, and I will not mock your intelligence by other illustrations beyond those just given of therapeutic applications of physiological and pathological knowledge or by arguing that all knowledge of normal processes aids in the comprehension of morbid processes, and that we are in a better position to combat disease when we thoroughly understand its causation and initiation, and follow mentally its development, course, and tendencies. Given the faculty of

observation, the insight which penetrates the meaning of the phenomena, the analytical and synthetical powers by which a diagnosis is constructed, the ready adaptation of means to a well-defined end, and the firmness of character required to deal with the frailties of human nature, and the best physiologist will make the best pathologist and the best pathologist the best physician.

[Sir William Broadbent here passed to the consideration of therapeutics and continued:]

The basis of therapeutics is diagnosis, the grasp of the actual condition underlying the symptoms or phenomena, and the greater our command of powerful remedies and the more precise our knowledge of their effects and of the mode in which these effects are produced, the more important does accuracy in diagnosis become. A diagnosis, to be real, implies not only the recognition of the disease which may be present and an accurate appreciation of the morbid changes which may have taken place in various organs, it embraces a knowledge of the nature and intensity of the pathological processes which have been and are in operation, and of the causes which set them going, and also of the results to which they tend. A further element, moreover, enters into the consideration: an estimate, by the aspect of the patient, by the pulse and temperature, and by other subjective and objective indications, of the impression made on the system, and of the resistance which it is capable of to the lethal tendencies of the disease. Year by year we see improvement in this respect; not only that hospital physicians and teachers endeavour to carry diagnosis to a greater pitch of accuracy and a higher point of refinement than ever before, but that the entire body of medical men are trained by improved education and systematic clinical teaching to appreciate and to practise careful diagnosis in their daily work. Diagnosis, we may say, has reached an extraordinary degree of advancement. There are, no doubt, still new fields to conquer, but in the recognition of diseases, local and general, there is not much which seriously concerns the human race which remains to be done. The same degree of knowledge, however, does not extend to morbid processes. Our comprehension of the significance and essential character of inflammation is by no means complete and satisfactory. The part which fever plays and the place which it holds among the phenomena of disease is far from being fully understood. It cannot have been intended by Nature for the destruction of the subject, and we can see distinctly that in some cases it forms a part of the defensive operations; possibly, indeed, its general tendency is defensive, by promoting the production of phagocytes, or possibly a certain elevation of the temperature may be fatal to maleficent organisms which have taken possession of the blood or tissues. We are not certain, indeed, whether in pyrexia the heat-producing oxidation in the structures receives its stimulus from, or takes place at the bidding of, the nervous centres, or, on the other hand, is due to enfeeblement of the restraint which they normally exercise over it, or whether it defies control by the thermotaxic nervous centres.

But here I must stop. I have said enough to show that the much-despised therapeutics, like clinical observation, suggests and stimulates scientific investigation, and I must now take up the last point; the views which guide the medical man at the present day in the employment of remedies. Of course our individual guide is mainly personal experience and observation of their effects. But the human mind is so constituted that it demands reasons, and even our experience finds expression in theory. There is, however, no theory which is supposed to apply to pathological processes and therapeutics in general, like the humoral doctrine of Hippocrates and Galen, the various intro-chemical and mechanical theories, the animism of Stahl, the stimulant, contra-stimulant, or organicist ways of accounting for everything—no theory of universal application. Yes! Homœopathy still, like a belated ghost, haunts the dawn of scientific medicine, and men are still found who wear its doctrines as a cloak for ignorance, or flaunt them as an attraction for the more foolish and credulous of the old ladies of both sexes. But, while our minds are not dominated by any *a priori* conception of a vital principle governing all vital operations, we must not flatter ourselves that we cannot be carried away by fashions in treatment. In our own day, under the influence of Todd, alcohol was largely accepted as the universal panacea, and for nearly a generation mercury was almost banished from the materia medica on theoretical grounds. The last twenty or thirty years have afforded us increased opportunities for the study of syphilitic diseases of the nervous system and of hereditary syphilis because of the abandonment of mercury in the treatment of the primary disease. And if we have no comprehensive theory of disease or treatment we have our small working hypotheses. To one man gout explains everything, and the more hazy or inadequate his idea of what gout is the more satisfactory the explanation. Gout, moreover, is accepted by the public as accounting for everything. The permutations and combinations of which uric acid is capable, and its ingenuity in giving rise to the most varied forms of disease, are truly wonderful. To another man the clue to treatment is acidity or bile or disease of the liver. Names have still a great influence, and the lesson which Galen constantly enforced, that we must treat not the disease but the patient, is as necessary in our day as in his. It does not follow that because we call a pain rheumatic the remedy is salicylate of soda. At one time the action of quinine was supposed to be explained by calling it an antiperiodic, and any tendency to periodicity in the recurrence of symptoms of whatever kind, or at whatever intervals, was considered to be an indication for its exhibition. It is inevitable that our imagination should be impressed by the revelation of the wonderful part which micro-organisms have been found to play in the genesis of disease, and that our thoughts should turn towards antisepsis in our treatment. So far the greatest success has been in dealing with microbes outside the system, as in antiseptic surgery and preventive medicine, and further triumphs are to be hoped for in this direction, as, for example, in the prevention of tuberculosis. We have as yet little evidence of the power of antiseptics to follow and destroy the microbes when they have once got possession of the system. Quinine, however, kills the malarial plasmodium, and we have now the antitoxic serum. Apparently, too, one virus may be antagonistic to another, and an attack of small-pox has often seemed to cure phthisis. We must continue our efforts to apply antiseptic principles, but it is most important that we should not allow ourselves either to imagine that we have obtained effects which have not been realised or to attribute results to antisepsis which may have come from other causes. It is not yet clear that any considerable impression has been made on the mortality from phthisis by guaiacol or creasote; and was not sulphuretted hydrogen injected into the rectum to deliver us from this scourge? It was inevitable, again, that we should be greatly struck by the remarkable power of lowering the temperature possessed by the antipyretic class of drugs. We seem to have within our reach the means of dealing with our most formidable enemy, and it is a great triumph to be able to point out to friends the effect of our remedy on the temperature chart, especially when it has been accompanied by relief of headache and other symptoms. Here it is very important that we should maintain an attitude of cool observation, and not conclude that in bringing down the temperature we have necessarily exerted a favourable influence on the course of the disease. We may have been bringing down also the patient, and it is not so certain that Nature does not know her business when she sets up febrile reaction. I feel myself justified in re-echoing the warning given by Dr. Douglas Powell on this point. But it is time that I should bring this long and disconnected address to a close, and in thanking you for the patient attention with which you have listened to it I congratulate you and myself that we live at a time when the art of medicine has made such progress, when science in its application to medicine has brought such marvellous and such beneficent aid to therapeutics, and when our beloved profession stands so high in the estimation of the world.

YARROW HOME, BROADSTAIRS.—A seaside convalescent home for children, named after the founder, Mr. A. F. Yarrow, was opened on Tuesday last at Broadstairs. A numerous company travelled by special train from Victoria, and on arrival at Broadstairs, after a short service, the home was formally declared open by Mrs. Yarrow. Some two years ago the generous founder of the institution was looking about for the best direction in which to devote a large sum of money for the benefit of children, and became impressed with the fact that while the wants of the very poor are already fairly met by existing agencies, there are many people of very limited means and at the same time highly respectable—too sensitive to seek help from any charitable agency or to let their wants be known outside their own circle—who in times of adversity suffer much. Hence the erection of this new seaside home for the reception of children—fifty girls and fifty boys—of deserving parents.

Address in Surgery.

Delivered at the Annual Meeting of the British Medical Association at London, August 1st, 1895,

BY JONATHAN HUTCHINSON, F.R.C.S. ENG., F.R.S.,

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ON MODERN ADVANCES IN SURGERY.

MR. PRESIDENT AND GENTLEMEN,—My first words must of necessity be an attempt to express the deep regret which you and I alike feel at the sad event which has been the cause of my coming before you. We had all looked forward with high anticipation to the pleasure of listening to an address on surgery from Arthur Durham. The hand of death has snatched him from us and put a stern veto on our hopes. It is not too much to say that the whole profession deplores Mr. Durham's too early death as a heavy loss to surgical science, whilst to many of us it brings also the sorrow for a much-loved friend. In the year 1750 there was published in London by one of Mr. Durham's many distinguished predecessors "A Critical Inquiry into the Present State of Surgery." Samuel Sharp was not only surgeon to Guy's Hospital, he was a Fellow of the Royal Society and a man of acute and original mind. He wrote good English, he saw for himself, and he travelled, not merely for self-gratification, but in search of professional knowledge. His work was to some extent the result of a visit to Paris, and he displays familiarity with the practice of all the Continental surgeons of his day. His "Critical Inquiry" was received with such favour that it was translated into French, German, and Spanish. I may, therefore, fairly take this book as representing the opinions of the day, and as affording to us fair criteria as to the topics which most interested the surgical world in the middle of the last century. Mr. Sharp thought well of his times and his compeers. In his preface he writes: "Perhaps there never was a period of time in which any art was more cultivated than surgery has been for these last thirty years." This, we may remember, was written when Pott was in his prime and Hunter a young man. It may perhaps not be without instruction for us if I glance for a few minutes at the topics which mainly claim attention. To begin with, he dismissed luxations and fractures with the remark that all eminent surgeons were agreed as to the method of treating them. With an almost similar remark he put aside "tumours, wounds, abscesses, and ulcers," asserting that their treatment is "fundamentally the same in every country of Europe." His optimistic belief that finality had been attained in these large departments is to be regretted, for it much restricted the scope of his interesting "Inquiry." His thirteen short chapters concern hernia, lithotomy, amputations, concussion of the brain, tumours of the gall-bladder, extirpation of the tonsils, hydrocele, and a few others. A small 8vo of less than 300 pages, and in large type, suffices for what he has to say. Let me repeat that what he does say he says well; but how little there is of it, and how restricted are his topics. What a contrast is presented with the almost limitless multiplicity of the subjects which in the present day claim the attention of its successors? Mr. Sharp's chapter on the extirpation of the tonsils contains a strong recommendation of the procedure of this simple measure. He remarks: "There is not an operation in surgery that in my opinion ought to give an operator so much encouragement. It is neither dreadful in the doing nor melancholy in the event." From this remark we may infer much as to his general experience of the major operations of his day. He wrote before the days of laparotomy for intestinal obstruction, and it is possible his thoughts probably went no further than excisions of tumours, amputations, and cutting for stone. Somewhat more than half a century later another important work appeared on the same lines, but far more thorough in character than that of Mr. Sharp. M. Roux, the distinguished surgeon of La Charité, spent a month in London engaged in the diligent investigation of English surgery. On his return to Paris he published the results of his observations. He had seen Laurence, Brodie, and Bell operate; of the two former he speaks as young men. With Cooper, then in his prime, he had held controversy as to the possibility of bony union in fractures of the neck of the femur, and had promised to send him a specimen which should remove all doubt. Between the dates of Sharp's "Critical Inquiry" and Roux's "Relation d'un Voyage" the whole of John Hunter's career had passed. The "Father of Scientific Surgery" had now been twenty years in his grave, and the great work of his life, that triumph of genius and industry, his museum, was already well housed under the guardianship of the College of Surgeons. Roux visited the museum, and he notes over and over again the extraordinary love which English surgeons had for anatomical preparations.

I do not purpose now to occupy your time by any analysis of this work, but I put it forward as a very valuable recapitulation of the surgical knowledge of the day as regards its two most important schools, Paris and London. As my design is to make some comparison between the present and the past, I shall find occasion hereafter to recur to M. Roux's statements in reference to various special subjects. Some of his more general impressions it may, however, be suitable to briefly mention. He held that England and France were really the only rivals in the art of surgery. Germany, Italy, and Holland had each, he admitted, produced their names, but they had been isolated and not of the first rank. It did not occur to him to even mention Austria. Russia was but just emerging from barbarism, and the United States, not yet more than twenty years independent, had given no indications of that successful activity which has been since displayed. He found the London hospitals behindhand as regards the classification of their patients, only one of them (the London Hospital) having as yet attempted to separate medical from surgical cases. London operators he thought skilful, but terribly slow. One of the best he had seen take twenty minutes in the doing of a circular amputation which any Paris surgeon would have finished in a quarter of the time. He thought the attention given to the management of fractures in England much inferior to that in Paris. He much regretted to observe that not only in London, but in some other large cities, special institutions had appeared for the treatment of diseases of the eye. These he thought to be good neither for the profession nor for the patients. Whilst I cannot agree with him in this, I venture heartily to applaud the sagacity with which he detected a weak point in the management of the Royal College of Surgeons ("un vice essentiel de cette institution"). He was amazed that an institution for the advancement of surgery should devote to comparative anatomy most of its lectures and the best part of its museum space. These subjects ought, he held, to find their place in a museum of natural history. Would that he could see it now. The best part of the new wing, erected at vast cost, is now nothing more than a reading-room or study for anatomical students, and its walls are occupied by a collection of skulls and skeletons which has no connexion whatever with our art. In place of a museum of clinical surgery we have a Golgotha of anthropology. This allusion to the present into which I have been betrayed reminds me that I must here leave M. Roux and his book and hasten to another and modern epoch.

In the year in which our honoured veteran, Sir Spencer Wells, then untitled, was the zealous editor of the *Medical Times and Gazette*, I had the honour to be his junior coadjutor. He determined to endeavour to bring to light the real facts as regards the results of operative surgery, and a plan was devised for the systematic publication in a classified form of all operations performed in English hospitals. The scheme was wholly Mr. Wells's, but I was entrusted to carry it out. For nearly three years brief records of all hospital operations, collected, as far as we could attain it, with scrupulous regard to accuracy, were regularly published. I hope I shall be pardoned for adverting to a topic which is to some small extent personal, but I believe that those reports were not without their influence in the development of surgical knowledge, and that they present a more accurate picture of hospitals a quarter of a century ago than can easily be found elsewhere. As such I ask permission to use them, together with the two books which I have mentioned as supplying material for contrast with the present. These reports were commenced in 1855 and came to an end in 1858. The task of collecting the materials was of the utmost use to my own surgical training. I was every day in the operating theatre of one or more hospitals, and in constant confidential communication with the hospital surgeons of the day. The statements published were in most instances revised by those whom they concerned, and the utmost care was taken to assure accuracy. It will be easily understood that in

many instances I was cognisant of details which it was not permissible to put in print. In this way I was enabled to form strong and clear opinions on various points in practice, some of which have been borne out by subsequent experience, and others not. Amongst others I well remember that there was a time when Mr. Wells, as well as myself, regarded the operation of ovariotomy as not much removed from manslaughter. We knew of fourteen cases in succession at different institutions, every one of which had ended in the death of the patient. There was a rumour about the same time that a well-known coroner had threatened Mr. Baker Brown that he would hold an inquest in the next case in which he did the operation. Another operation in reference to which I formed a strong prejudice was that of lithotrity. Although at this date Sir Benjamin Brodie had in private practice obtained satisfactory results, and had devoted much attention to the improvement of instruments, yet I could see nothing at the hospitals that was encouraging. A not inconsiderable number of the patients did actually die after it, and of the others it appeared to be the fact that scarcely any were really cured. They were perennial patients, and the same unfortunate man would appear over and over again to be subjected to a repetition of the same tortures. There was no single operation respecting which it was so difficult to secure trustworthy reports, and in many instances the cases which I was obliged to record as "cured" were, I strongly suspected, not really freed from stone. It was, of course, long before the days of litholapaxy, when it was the custom to break a stone into fragments and leave them to find their way out as best they could. The impression which I formed of this operation was such that I determined never to do it, and when, later, I was elected surgeon to the Metropolitan Free Hospital and a good share of stone cases fell to my lot, I invariably performed lithotomy. This rule was continued during my surgeoncy to the London Hospital, and in contrasting my success with that of some of my colleagues, who frequently used the lithotrite, I found nothing to regret. When, however, Bigelow taught us how to complete the operation at one sitting and to remove all fragments, I saw, almost with regret, that lithotomy must henceforth give place. My hands, however, needed practice in the new operation, and I found to my chagrin that I could not do it so quickly and neatly as those could who made it a special pursuit. One patient unfortunately died, and I felt very sorry that I had not cut him. I determined that I would not do litholapaxy *propriâ manu* again, but that I would watch its results in the hands of a specialist friend. From that date onwards I have always on discovering the presence of a stone of a size not demanding lithotomy transferred the patient to my friend. The result has been not a single death, and, what is almost of equal importance, not a single case needing a second operation. All the cases have been adult, if not aged, men, and my list has included two near relatives, two ex-hospital colleagues, two other medical friends, and many strangers. In every instance the recovery has been *cito et jucunde* and the relief permanent. During the same period I have done lithotomy in a few exceptional cases, but they have been only a very few, and in other respects there has been no selection. Lithotrity as practised in our hospitals forty years ago was for the most part a miserable failure; litholapaxy in the present day is, in the hands of our specialists, a joyful triumph. I assure you that I regard the results of my practice in this department ever since I ceased to operate with my own hands with the utmost satisfaction and pride.

If, however, the triumph of lithotrity has been pronounced, that of ovariotomy may yet be held to surpass it. This is in part because at one time it seemed yet more hopeless. It needs some courage to attempt, even in the briefest manner, to sketch the history of this victory, so many are the points in dispute and doubt, and so much of personal feeling is involved. Let me say, then, in beginning what none but a churl will dispute, that to the operative skill, the patient attention to detail, the indomitable determination to go on from good to better, which through a long series of years were displayed by him whom we now honour as Sir Spencer Wells, the credit is mainly due. Yet Mr. Wells was by no means the first in the field, even in what we may consider the modern revival; Mr. Wells and myself did our first operations within two months of each other—he in February, 1858, I in May of the same year. But Mr. Baker Brown had been doing it for several years before, and he was present at both Mr. Wells's first operation and my own. From this date ovariotomy took a new start. Successes were obtained, the cases were brought before our societies, and surgeons began to be hopeful. For many subsequent years it appeared as if the principle of keeping the end of the pedicle outside the abdomen was the main improvement. This plan I had practised and advocated from the first, and I had devised for its better accomplishment a clamp, which came into general use and held its ground for a decennium. Mr. Wells had in the first instance dropped the pedicle into the abdomen, bringing its ends out at the wound, and he considered the latter point an advantage, as keeping open a track for the escape of matter. His first case and mine alike recovered, but his after much "fetid discharge" from the abdomen, and mine with primary closure of the wound. He subsequently used my clamp, and in a letter published many years afterwards very generously acknowledged his indebtedness to it. Mr. Baker Brown also very promptly adopted the clamp. Such having been the circumstances, I may, perhaps, be pardoned if I confess that there was a time when I allowed myself some gratification in the thought that I had myself taken some share in furthering the success of this important and life-saving operation. I bore with such equanimity as I could the discovery that I could not compete with my friend in the ratio of successes obtained, and acting on the rule of conduct that I would never keep a patient in my own hands if I believed that someone else could do what was needed with greater prospect of success, I gave up doing ovariotomies both in public and private, and used to transfer my patients from the London Hospital to the Samaritan Hospital. As to the explanation of my comparative want of success I always felt in some doubt. That I could not keep my experience of the operation on a level with that of Mr. Wells was certain, for he had a special hospital and I only a general one. That lack of the skill which comes only from constant practice was not the only explanation, if indeed the chief, seemed proven by the fact that I had lost some of the very easiest cases which had made no demands on special skill. I was driven to the conclusion that, as surgeon to a large general hospital, and in attendance upon all sorts of cases, and erysipelas amongst the rest, I could not keep myself from risks of contagion so completely as was accomplished by the precautions which were at that time enforced at the Samaritan Hospital. Another disappointment, however, awaited me. The time came when the clamp was discarded, and with it the principle which I had cherished of extra-peritoneal treatment of the pedicle. 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It may have been that we did not in former times attend sufficiently to the various details included in the expression "toilet of the peritoneum," and it is quite certain that we were at the time ignorant of the use of antiseptics. Probably the truth is that the latter have made safe what was dangerous formerly, and thus it possibly remains to be the fact that the clamp and the extra-peritoneal method which it emphasised did really win the day for ovariotomy at a time when no other tactics would have succeeded.

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Address in Surgery.

Delivered at the Annual Meeting of the British Medical Association at London, August 1st, 1895,

BY JONATHAN HUTCHINSON, F.R.C.S. ENG., F.R.S.,

CONSULTING SURGEON TO THE LONDON HOSPITAL, AND LATE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS, ENGLAND.

ON MODERN ADVANCES IN SURGERY.

MR. PRESIDENT AND GENTLEMEN,—My first words must of necessity be an attempt to express the deep regret which you and I alike feel at the sad event which has been the cause of my coming before you. We had all looked forward with high anticipation to the pleasure of listening to an address on surgery from Arthur Durham. The hand of death has snatched him from us and put a stern veto on our hopes. It is not too much to say that the whole profession deplores Mr. Durham's too early death as a heavy loss to surgical science, whilst to many of us it brings also the sorrow for a much-loved friend. In the year 1750 there was published in London by one of Mr. Durham's many distinguished predecessors "A Critical Inquiry into the Present State of Surgery." Samuel Sharp was not only surgeon to Guy's Hospital, he was a Fellow of the Royal Society and a man of acute and original mind. He wrote good English, he saw for himself, and he travelled, not merely for self-gratification, but in search of professional knowledge. His work was to some extent the result of a visit to Paris, and he displays familiarity with the practice of all the Continental surgeons of his day. His "Critical Inquiry" was received with such favour that it was translated into French, German, and Spanish. I may, therefore, fairly take this book as representing the opinions of the day, and as affording to us fair criteria as to the topics which most interested the surgical world in the middle of the last century. Mr. Sharp thought well of his times and his compeers. In his preface he writes: "Perhaps there never was a period of time in which any art was more cultivated than surgery has been for these last thirty years." This, we may remember, was written when Pott was in his prime and Hunter a young man. It may perhaps not be without instruction for us if I glance for a few minutes at the topics which mainly claim attention. To begin with, he dismissed luxations and fractures with the remark that all eminent surgeons were agreed as to the method of treating them. With an almost similar remark he put aside "tumours, wounds, abscesses, and ulcers," asserting that their treatment is "fundamentally the same in every country of Europe." His optimistic belief that finality had been attained in these large departments is to be regretted, for it much restricted the scope of his interesting "Inquiry." His thirteen short chapters concern hernia, lithotomy, amputations, concussion of the brain, tumours of the gall-bladder, extirpation of the tonsils, hydrocele, and a few others. A small 8vo of less than 300 pages, and in large type, suffices for what he has to say. Let me repeat that what he does say he says well; but how little there is of it, and how restricted are his topics. What a contrast is presented with the almost limitless multiplicity of the subjects which in the present day claim the attention of its successors? Mr. Sharp's chapter on the extirpation of the tonsils contains a strong recommendation of the procedure of this simple measure. He remarks: "There is not an operation in surgery that in my opinion ought to give an operator so much encouragement. It is neither dreadful in the doing nor melancholy in the event." From this remark we may infer much as to his general experience of the major operations of his day. He wrote before the days of laparotomy for intestinal obstruction, and it is possible his thoughts probably went no further than excisions of tumours, amputations, and cutting for stone. Somewhat more than half a century later another important work appeared on the same lines, but far more thorough in character than that of Mr. Sharp. M. Roux, the distinguished surgeon of La Charité, spent a month in London engaged in the diligent investigation of English surgery. On his return to Paris he published the results of his observations. He had seen Laurence, Brodie, and Bell operate; of the two former he speaks as young men. With Cooper, then in his prime, he had held controversy as to the possibility of bony union in fractures of the neck of the femur, and had promised to send him a specimen which should remove all doubt. Between the dates of Sharp's "Critical Inquiry" and Roux's "Relation d'un Voyage" the whole of John Hunter's career had passed. The "Father of Scientific Surgery" had now been twenty years in his grave, and the great work of his life, that triumph of genius and industry, his museum, was already well housed under the guardianship of the College of Surgeons. Roux visited the museum, and he notes over and over again the extraordinary love which English surgeons had for anatomical preparations.

I do not purpose now to occupy your time by any analysis of this work, but I put it forward as a very valuable recapitulation of the surgical knowledge of the day as regards its two most important schools, Paris and London. As my design is to make some comparison between the present and the past, I shall find occasion hereafter to recur to M. Roux's statements in reference to various special subjects. Some of his more general impressions it may, however, be suitable to briefly mention. He held that England and France were really the only rivals in the art of surgery. Germany, Italy, and Holland had each, he admitted, produced their names, but they had been isolated and not of the first rank. It did not occur to him to even mention Austria. Russia was but just emerging from barbarism, and the United States, not yet more than twenty years independent, had given no indications of that successful activity which has been since displayed. He found the London hospitals behindhand as regards the classification of their patients, only one of them (the London Hospital) having as yet attempted to separate medical from surgical cases. London operators he thought skilful, but terribly slow. One of the best he had seen take twenty minutes in the doing of a circular amputation which any Paris surgeon would have finished in a quarter of the time. He thought the attention given to the management of fractures in England much inferior to that in Paris. He much regretted to observe that not only in London, but in some other large cities, special institutions had appeared for the treatment of diseases of the eye. These he thought to be good neither for the profession nor for the patients. Whilst I cannot agree with him in this, I venture heartily to applaud the sagacity with which he detected a weak point in the management of the Royal College of Surgeons ("un vice essentiel de cette institution"). He was amazed that an institution for the advancement of surgery should devote to comparative anatomy most of its lectures and the best part of its museum space. These subjects ought, he held, to find their place in a museum of natural history. Would that he could see it now. The best part of the new wing, erected at vast cost, is now nothing more than a reading-room or study for anatomical students, and its walls are occupied by a collection of skulls and skeletons which has no connexion whatever with our art. In place of a museum of clinical surgery we have a Golgotha of anthropology. This allusion to the present into which I have been betrayed reminds me that I must here leave M. Roux and his book and hasten to another and modern epoch.

In the year in which our honoured veteran, Sir Spencer Wells, then untitled, was the zealous editor of the *Medical Times and Gazette*, I had the honour to be his junior coadjutor. He determined to endeavour to bring to light the real facts as regards the results of operative surgery, and a plan was devised for the systematic publication in a classified form of all operations performed in English hospitals. The scheme was wholly Mr. Wells's, but I was entrusted to carry it out. For nearly three years brief records of all hospital operations, collected, as far as we could attain it, with scrupulous regard to accuracy, were regularly published. I hope I shall be pardoned for adverting to a topic which is to some small extent personal, but I believe that those reports were not without their influence in the development of surgical knowledge, and that they present a more accurate picture of hospitals a quarter of a century ago than can easily be found elsewhere. As such I ask permission to use them, together with the two books which I have mentioned as supplying material for contrast with the present. These reports were commenced in 1855 and came to an end in 1858. The task of collecting the materials was of the utmost use to my own surgical training. I was every day in the operating theatre of one or more hospitals, and in constant confidential communication with the hospital surgeons of the day. The statements published were in most instances revised by those whom they concerned, and the utmost care was taken to assure accuracy. It will be easily understood that in

many instances I was cognisant of details which it was not permissible to put in print. In this way I was enabled to form strong and clear opinions on various points in practice, some of which have been borne out by subsequent experience, and others not. Amongst others I well remember that there was a time when Mr. Wells, as well as myself, regarded the operation of ovariotomy as not much removed from manslaughter. We knew of fourteen cases in succession at different institutions, every one of which had ended in the death of the patient. There was a rumour about the same time that a well-known coroner had threatened Mr. Baker Brown that he would hold an inquest in the next case in which he did the operation. Another operation in reference to which I formed a strong prejudice was that of lithotrity. Although at this date Sir Benjamin Brodie had in private practice obtained satisfactory results, and had devoted much attention to the improvement of instruments, yet I could see nothing at the hospitals that was encouraging. A not inconsiderable number of the patients did actually die after it, and of the others it appeared to be the fact that scarcely any were really cured. They were perennial patients, and the same unfortunate man would appear over and over again to be subjected to a repetition of the same tortures. There was no single operation respecting which it was so difficult to secure trustworthy reports, and in many instances the cases which I was obliged to record as "cured" were, I strongly suspected, not really freed from stone. It was, of course, long before the days of litholapaxy, when it was the custom to break a stone into fragments and leave them to find their way out as best they could. The impression which I formed of this operation was such that I determined never to do it, and when, later, I was elected surgeon to the Metropolitan Free Hospital and a good share of stone cases fell to my lot, I invariably performed lithotomy. This rule was continued during my surgeoncy to the London Hospital, and in contrasting my success with that of some of my colleagues, who frequently used the lithotrite, I found nothing to regret. When, however, Bigelow taught us how to complete the operation at one sitting and to remove all fragments, I saw, almost with regret, that lithotomy must henceforth give place. My hands, however, needed practice in the new operation, and I found to my chagrin that I could not do it so quickly and neatly as those could who made it a special pursuit. One patient unfortunately died, and I felt very sorry that I had not cut him. I determined that I would not do litholapaxy *propriâ manu* again, but that I would watch its results in the hands of a specialist friend. From that date onwards I have always on discovering the presence of a stone of a size not demanding lithotomy transferred the patient to my friend. The result has been not a single death, and, what is almost of equal importance, not a single case needing a second operation. All the cases have been adult, if not aged, men, and my list has included two near relatives, two ex-hospital colleagues, two other medical friends, and many strangers. In every instance the recovery has been *cito et jucunde* and the relief permanent. During the same period I have done lithotomy in a few exceptional cases, but they have been only a very few, and in other respects there has been no selection. Lithotrity as practised in our hospitals forty years ago was for the most part a miserable failure; litholapaxy in the present day is, in the hands of our specialists, a joyful triumph. I assure you that I regard the results of my practice in this department ever since I ceased to operate with my own hands with the utmost satisfaction and pride.

If, however, the triumph of lithotrity has been pronounced, that of ovariotomy may yet be held to surpass it. This is in part because at one time it seemed yet more hopeless. It needs some courage to attempt, even in the briefest manner, to sketch the history of this victory, so many are the points in dispute and doubt, and so much of personal feeling is involved. Let me say, then, in beginning what none but a churl will dispute, that to the operative skill, the patient attention to detail, the indomitable determination to go on from good to better, which through a long series of years were displayed by him whom we now honour as Sir Spencer Wells, the credit is mainly due. Yet Mr. Wells was by no means the first in the field, even in what we may consider the modern revival; Mr. Wells and myself did our first operations within two months of each other—he in February, 1858, I in May of the same year. But Mr. Baker Brown had been doing it for several years before, and he was present at both Mr. Wells's first operation and my own. From this date ovariotomy took a new start. Successes were obtained, the cases were brought before our societies, and surgeons began to be hopeful. For many subsequent years it appeared as if the principle of keeping the end of the pedicle outside the abdomen was the main improvement. This plan I had practised and advocated from the first, and I had devised for its better accomplishment a clamp, which came into general use and held its ground for a decennium. Mr. Wells had in the first instance dropped the pedicle into the abdomen, bringing its ends out at the wound, and he considered the latter point an advantage, as keeping open a track for the escape of matter. His first case and mine alike recovered, but his after much "fetid discharge" from the abdomen, and mine with primary closure of the wound. He subsequently used my clamp, and in a letter published many years afterwards very generously acknowledged his indebtedness to it. Mr. Baker Brown also very promptly adopted the clamp. Such having been the circumstances, I may, perhaps, be pardoned if I confess that there was a time when I allowed myself some gratification in the thought that I had myself taken some share in furthering the success of this important and life-saving operation. I bore with such equanimity as I could the discovery that I could not compete with my friend in the ratio of successes obtained, and acting on the rule of conduct that I would never keep a patient in my own hands if I believed that someone else could do what was needed with greater prospect of success, I gave up doing ovariotomies both in public and private, and used to transfer my patients from the London Hospital to the Samaritan Hospital. As to the explanation of my comparative want of success I always felt in some doubt. 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the day somewhat sooner amongst us. The victory of specialism in diseases of the eye is now acknowledged by all, even by many who still echo M. Roux's sentiments in reference to many other departments of our art. Can we, however, refuse to recognise the lesson which the modern practice of such operations as lithotrity and ovariotomy teach us? Are there not also many other procedures which stand on precisely the same footing? Would anyone allow an inexperienced surgeon to extract a gall-stone when the services of one who had done many such operations were at hand, or entrust the removal of laryngeal growths to any surgeon, however skilled, who was not specially trained as regards that operation? If we could get the gross statistics of ovariotomy and lithotrity for the whole kingdom, I much fear that the ratio of success would be found to fall lamentably short of that habitually secured by our best specialists. I designedly speak of specialists rather than of special hospitals, for it is quite possible that the latter may, when the staff is large in proportion to the number of beds, cease to afford the advantages as regards individual experience which they are designed to do. Good specialists are, besides, sometimes developed quite independently of special institutions. The late Mr. Gutteridge of Birmingham is reported to have made a proposal that he should be appointed lithotomist to the United Kingdom for the reason—almost sublime in its simplicity—that he could do the operation better than anyone else. He had never had any hospital appointment, yet I have been told by those who knew him well that his allegation was no mere empty boast. The remarkable results in litholapaxy in children obtained by Dr. Kegan in India, those of Sir Henry Thompson in lithotrity in adults, those of more than one in brain surgery, and those of Mr. Mayo Robson in operations on the gall-bladder, are all of them, I think, good examples of what we call personal specialism. Of these personal specialists it may further be alleged that not only do they develop remarkable skill themselves, but they almost invariably succeed as teachers. Most of those whom I have named have in this direction had a wide influence, and there was a time when surgeons flocked from all parts of Europe to learn from Mr. Spencer Wells how to do ovariotomy with success. A man who thoroughly understands his subject in its details can treat it with an efficiency and ease which are wholly unattainable by others. To encourage specialism in many branches of operative surgery is, then, I cannot but think, in consonance with common sense and common humanity.

If any enterprising journal of the present day should undertake the publication of operation statistics on the plan which I have described, as devised by Mr. Spencer Wells thirty years ago, we should have before us materials for a most interesting comparison with the past. In the first place, I do not doubt that we should be astonished at the enormous increase in the number of operations. Formerly one operation day a week was thought sufficient for most hospitals; then it increased to two, and now I suppose there are few institutions in which every day is not so regarded. Nor is this only in hospital practices. Operations in private practice have probably increased in still greater ratio. I well remember the institution of the first nursing home in London, and a very modest one it was. Before that we had to take our patients into hotels or private lodgings. Now, in addition to such luxurious establishments as Fitzroy House, we have homes and hotels for the sick without number. There are West-end streets in which every other house is so occupied. The patients are, I believe, though by no means exclusively, yet in great majority, surgical cases. These institutions are, without exception, managed, if not to perfection, at any rate with a degree of excellence above what was dreamed of half a century ago. If I praise the nursing homes, what shall I say of the nurses? Not a home is opened but it becomes provided at once by a troop of beings who, fair, intelligent, gentle, and indefatigable, would seem to have been created for the special work. What this class of young women did before nursing was invented is a constant puzzle to me. Its difficulty is equalled only by the question as to what becomes of them, for I never saw one who was even approaching middle age.

If I am asked as to what are the special operations which have increased, the reply must be that they are most various, and that on the whole they are such as conduce most definitely to mitigate sufferings and to prolong life. Permit me to take one as an example. It shall be one in which the development of sound doctrine as to pathogenesis rather than augmented surgical daring has gained the triumph. No one ought now to die of cancer of the tongue; nothing except neglect of the early stage can bring about such a result. It is the doctrine of the local origin of cancer and of a precancerous stage which has placed us in this position. In former days no operations were with the rarest exceptions performed for this disease; and if they were, it was in the late stage, when, to use the forcible expression which I have quoted from Mr. Sharp, the procedure was both "dreadful in the doing and unfortunate in the event." Cancer of the tongue was, in fact, hardly ever diagnosed until it was too late to operate. One of our most popular surgical manuals taught that enlargement of the lymphatic glands in the latter afforded one of the best means of distinguishing between syphilitic and cancerous disease. We should now regard it as evidence of almost culpable delay, and as implying that the case had advanced too far for surgical aid. That distinguished surgeon, Mr. Syme, was a pioneer in this branch of operative surgery as in many others. I well remember to have formed once one of a crowded audience in the theatre of the Edinburgh Royal Infirmary assembled to witness one of the first of these operations. The symphysis of the jaw was sawn through and its halves dragged. The operation was most dexterously done; it was most complete, but at the same time it was most formidable. The patient died a few days afterwards, and he was, I believe, the third in succession that the operator had lost. He, as a conscientious man, determined never to attempt it again. There are surgeons now living—more than one—who can boast of operations for cancer of the tongue by the score, if not by the hundred, and with no appreciable mortality. They are not, however, cases such as those which alone Mr. Syme attempted; a majority of them are cases in which the operation is in itself a mere trifle—the excision, it may be, of only a very small part of the organ. Year by year the number of cases in this category increases, and that of those in advanced stages diminishes. What hinders that all cases of cancer of the tongue should be submitted to operation in the earliest stage? Nothing excepting defective diagnostic capacity on the part of members of our own profession. The fault is but rarely on the part of the patient. I never yet met with a patient to whom it was kindly yet confidently told, "You have got cancer," who did not gladly and without delay assent to the operation.

In another department of surgery our work has also enormously increased, partly in connexion with improved methods and partly from sounder principles of diagnosis. In the case of the tongue is improved diagnosis only in that of the female breast it is that in large part, but in still larger the modern methods of dressing which now enable us to promise to the patient a painless operation and a speedy convalescence. There never was anything formidable in the performance of an excision of the breast, but I well remember the time when the prospect of a febrile illness with troublesome suppuration and a succession of dressings only less distressing to the patient than the operation itself, acted as a very powerful motive to the surgeon for delays, which were very dangerous. No case was ever operated upon until the diagnosis was as clear as daylight, and until in but too many instances disease was far advanced. The class of symptoms by which our textbooks taught us as students to recognise cancer of the breast were for the most part, as in the case of the tongue, those present only in the late stage. Those which we now teach to our students are wholly different. What would be thought of the surgeon in the present day who should inculcate reliance upon the retraction of the nipple, the saddle-leather condition of the overlaying skin, or the unhealthy condition of the ulcer? We now trust solely to the trained finger to recognise the character of the induration, and we lay down an inexorable precept that if there be any reasonable doubt the breast should be removed. Our patients, as a rule, accede without much reluctance to our recommendations, for they know from general report that the modern operation is a mere trifle. The result of this change of practice is that the statistics of cancer of the breast must be rewritten. Those collected so laboriously three or four decades ago are no longer in the least applicable to our present results. Permanent recoveries after removal of the breast for scirrhus, as after those of part of the tongue for epithelioma, are now common in the practice of all operators. So much has been said or implied in the discussion of the last two topics that the present becomes a suitable place to introduce a few remarks upon the all-important topic of the educational training of the surgeon of to-day. The great examining bodies which exercise such a large influence over the destinies of our profession in presiding at

its admission portals have recently decreed that the education of the student shall be extended over five years. For myself I may say that, although in committees and council-rooms I have always consistently given my vote in favour of this addition of a year, I have never been a warm advocate of the measure. It has always appeared to partake too much of the faith that if you only keep a horse long enough at the water you can make him drink. The additional year must make medical education more expensive and may possibly hinder some of precisely the class which we wish to attract.

The Baillie Lectures
ON
DROPSY.

Delivered at St. George's Hospital on June 19th and 26th and July 3rd, 1895.

BY W. HOWSHIP DICKINSON, M.D., F.R.C.P. LOND.,

HON. FELLOW OF CAIUS COLLEGE, CAMBRIDGE; CONSULTING PHYSICIAN TO ST. GEORGE'S HOSPITAL AND TO THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

LECTURE III.

Delivered on July 3rd, 1895.

GENTLEMEN,—The next form of the dropsy of pressure is cardiac; the immediate cause of this is capillary stagnation due to venous obstruction. The right side of the heart is the first place where the returning blood is liable to meet with hindrance, and theoretically the right side should have more to do with dropsy than the left; but practically the left side with its greater liability to disease takes precedence of it in this respect. Whether we find mitral constriction or mitral regurgitation, the result is much the same in obstruction to the pulmonary circulation; this stands in the way of exit from the right ventricle, and the over-loaded right side stands in the way of exit from the systemic veins. The nearer the obstruction is to the venous exit the more readily dropsy supervenes. If the mitral valve be between the two and holds good it does a great deal, as perhaps it was intended to, to keep the venous return free and dropsy absent. We see this in aortic regurgitation. The left ventricle gets over-filled and over-stretched during diastole by the blood which is rushing back into it through the aortic opening at the very same time that blood is pouring in, in due course, through the mitral. It might be thought that this crowding of the cavity would make a block the effects of which would reach the veins, but it does not appear to be so. So long as the mitral valve is capable of doing its duty dropsy is absent. I have my eye upon a case now which has been under my observation for the last thirty years. There is extreme aortic regurgitation with an enormous left ventricle. There is no dropsy, and never has been. If the mitral valve should give way and a mitral murmur present itself, then we shall have dropsy, and probably not before. Among the relations of the diseased heart to dropsy there is one which I think has been too much lost sight of—it is this: hypertrophy of the left ventricle is antagonistic to dropsical effusion. This is most markedly seen, as I shall presently show, in renal disease, but is to be recognised in other circumstances. The method is obvious. The ventricle has a double action; it not only drives the blood into the arteries by its contraction, but by its expansion it pulls the blood out of the veins. As it opens it draws upon the left auricle and indirectly upon the right side of the heart, lungs, and systemic veins. The suction power of the ventricle must be increased with the thickness of the wall, just as a ball syringe expands with the more force the thicker it is. I must not dwell further upon cardiac dropsy; as necessarily ensues from its mechanical origin it is earliest found where the veins are at the greatest disadvantage—namely, the lower extremities. If œdema begins with puffiness of the face we may be sure it is not cardiac. Nothing tends more to the increase of this kind of dropsy, and, indeed, of renal dropsy also, than water in the pleuræ, which compresses the pulmonary vessels and adds to the obstruction already existing. I have often had the chest tapped in such circumstances with obvious and immediate advantage in this respect. While upon tapping let me say this: puncture the abdomen whenever you see reason for it; it relieves dyspnœa and the lower extremities, is generally harmless and often beneficial: but beware how you meddle with the legs. So readily is cellular inflammation set up in these cases, and so apt is it to prove fatal, that acupuncture carries as much danger as a capital operation, and should never be lightly undertaken. I have sometimes heard it proposed to tap the legs on the ground that the abdomen would be thus relieved. I believe this to be a mistake.

I may here touch, however briefly, upon the general treatment of cardiac dropsy. Before all things it is necessary that the horizontal posture should be enforced unless there are special circumstances, by way of dyspnœa or angina, which forbid it. The defective heart may be able to conduct the circulation on the level, but not vertically. The good of this simple measure is great. In the next place we must do two things simultaneously—relieve the vessels and reinforce the heart. Relieve the vessels by mercurials and hydragogues, and spur the heart with cardiac tonics. Do not waste your time, or rather your patient's, by tinkering with mere diuretics. Diuretics are futile unless they have, like digitalis and squills, an especial cardiac action. Of all the remedies for cardiac dropsy none approaches in value the time-honoured pill of Baillie, fitly commemorated in a Baillie Lecture. This consists of blue pill, squills, and digitalis; the digitalis helps the heart and the mercury unloads the vessels. The effects of this remedy are often marvellous; I have seen, not once only, but many a time and oft, general and extreme cardiac dropsy entirely removed by its means. There is nothing I like better to treat than cardiac dropsy, for I feel that I can see my way and generally do good. You may if you please make use of calomel or the green iodide of mercury instead of blue pill; the essential thing is to give together mercury and digitalis. With children, to whom pills are a difficulty, I have often given with the same results the same thing in a liquid form; liquor hydrargyri perchloridi, infusion of digitalis, and tincture of squills. Be it remembered that cardiac dropsy is generally connected with mitral disease, the valvular lesion with which digitalis is especially useful.

The next division of the subject comprises dropsies dependent on, or at least connected with, changes in the blood; among them is renal dropsy and that of chlorosis. It may be said in general terms that renal dropsy and cardiac dropsy have this essential difference: cardiac dropsy is due to diminished absorption, and renal dropsy to increased exudation. Renal dropsy is more complicated than that of heart disease; conditions of altered blood are involved with questions of altered mechanism; there are several factors to be considered and some discrepancies to be reconciled. In the first place there is a general inverse ratio between the amount of dropsy and of urine; the less urine the more dropsy. But this does not always hold good. In obstructive suppression, say, from renal calculus, though urine may be totally absent for many days, even for a fortnight, there is usually no trace of dropsy of any kind. With nephritis, where dropsy is so usual a concomitant, it sometimes happens that this result is absent where we should most expect it. There is a very acute and fatal form of the disease which I have seen after scarlet fever in which dropsy may be totally, or almost totally, absent, notwithstanding that the urine may be scanty almost to suppression. Death is quickly brought about by uræmia, but dropsy is conspicuous by its absence. Such cases are sufficient to show that the ordinary rule that the dropsy increases as the urine diminishes and *vice versâ* is not invariable, but that other conditions beside the exit of water by the kidneys have to be taken into account. In a paper to which I have already referred, and to which I may appeal for particulars, I gave a number of sphygmographic observations bearing on the relations of blood-pressure and renal dropsy. The conclusions are briefly these: renal dropsy arises together with a certain increase of arterial pressure which appears to be essential to the process; the increase of pressure with early dropsy is not so great as obtains later, but nevertheless is distinct; when under the depressing effect of the disease the force of the circulation is diminished instead of being increased then dropsy is absent: we see this in obstructive suppression which is attended with a failing pulse, death

by syncope, and a heart uncontracted after death. I regret that I have no sphygmographic evidence bearing upon this, but the failure of pulse and heart are sufficiently apparent. It would seem that a certain force is required for the accomplishment of the transudation which constitutes renal dropsy, failing which this does not occur, however other circumstances may invite it. Vomiting and diarrhœa may take its place.

The dropsy of kidney disease is evidently connected with the retention of renal excreta, which exert some special action upon the capillaries which at once increases transudation and hinders the circulation. This is not inflammation, but may remotely resemble it, or we may regard it as akin to secretion and as tending to relieve the blood of its morbid elements. The attendant hindrance I have dwelt upon in the first lecture, together with its effect upon the arterial system. The association of dropsy with this difficulty points significantly to its position in the capillaries rather than the arterioles. It is improbable that the transudation, which is necessarily of capillary origin, would be thus promptly poured out were there any considerable constriction of the arterioles to cut off the blood from the ultimate vessels. Among the circumstances which conduce to early renal dropsy is the state of the respiratory organs, which is commonly found with this condition. In a large proportion of cases there is broncho-pneumonia or some allied condition, which must assist the process by hindering the return of venous blood.

Three stages are to be recognised in the natural course of renal dropsy: its *accession*, its *removal*, and its *reappearance*. This division, of course, applies only to cases which become chronic and go on to the latest issues of the disease. Numbers happily get well shortly after the outset; for such there are no subsequent stages; others are debarred from them by early death. Taking the instances where the kidneys are irrecoverable and yet allow of a protracted existence, what happens is this: the heart and arteries slowly become hypertrophied, the arterial tension increases, the pulse hardens, the urine becomes superabundant, and the dropsy lessens and then disappears. With the access of the disease we have the tension increased to a certain degree and with this dropsy; with a further increase of tension and concomitant changes in the heart and arteries the dropsy goes. This result of the *vis medicatrix naturæ* is often placed to the credit of the last drug or the last medical attendant. How is it brought about? Probably in two ways; the increased blood-pressure is a diuretic of no mean efficacy, and the increased expansile power of the hypertrophied left ventricle draws upon the veins and pumps out the waterlogged vessel. But this is not the finish. The last scene of all that ends this strange eventful history is heart-failure and a return of dropsy which is now more cardiac than renal. The beneficial part of the process can be conducted only so long as the mitral valve remains efficient. A time comes, if the patient lives long enough, when the heart stretches under the strain and the mitral orifice becomes too wide to be closed by the mitral flaps. Then comes regurgitation, a mitral murmur, a return of dropsy, which often invades the thoracic cavities, often pulmonary apoplexy, and all the circumstances of mitral disease. Pulmonary apoplexy and hæmoptysis may ensue simply from renal disease without any affection of the heart excepting what renal disease entails. I have given examples of this in the paper that I have more than once referred to.

The treatment of renal dropsy is by no means unsatisfactory, since we often have with us a strong-siding champion—Time. We must not be guided solely by *a priori* reasoning or theoretical considerations, but largely by experience. We have to trim and adjust and pursue a system of compromise. We have anæmia on one hand and uræmia on the other, and must steer between Scylla and Charybdis. We have to depurate, to dehydrate, but not to anæmiate. We must evacuate, but not exhaust. "Spare diet and spring water clear" may purify the blood, but are not remedies for anæmia. Watery purgatives, compound jalap powder, sulphate of magnesia, and under extreme circumstances elaterium, may be given periodically and alternately with hot-air baths. Sudorifics in the shape of drugs are useless as remedies for dropsy, but I have known this, when obstinate and extensive, to be entirely removed under the influence of hot air, which I have been in the habit of applying only below the knees; the effect is general and sufficient without being excessive. Of the medicines of the diuretic class the only one of special use is digitalis, and this is so valuable that I have laid down a rule for myself from which I seldom depart—if there be dropsy in the course of renal disease give digitalis. This is not merely a diuretic, but probably has an action on the cardio-vascular system which is beneficial under the circumstances. A very low diet does not do; I give fish generally, and have often exchanged it for a little meat with obvious advantage. The treatment of renal disease is often overdone in the way of taking too much out of the patient and not putting enough in. For the more chronic cases iron is generally beneficial; the perchloride may be conveniently associated with digitalis, and enough sulphate of soda or of magnesia to obviate any constipating effect. I may add a word about tapping which is much what I have said in reference to cardiac dropsy. Tap the pleuræ or the peritoneum with confidence, but leave the legs alone. Relieving the abdomen is often the best way of relieving the lower extremities, for it takes the pressure off the vena cava. With regard to the pleuræ, by removing fluid from them we achieve two ends: not only do we ease the breathing, but by taking pressure off the pulmonary vessels we facilitate the return of venous blood, and thus promote the absorption of dropsy fluid in every part of the body.

Allied to the dropsy of renal disease is that of chlorosis; both are essentially dependent on the failure of a natural excretion and its retention in the blood. I have no time to dwell upon this, but may briefly say that one way in which the toxic agent acts, as does that of kidney disease, is by increasing the arterial tension. It took me by surprise when I found by applying the sphygmograph in this variety of dropsy that with these pallid and feeble creatures given to fainting, as full of murmurs as an Æolian harp—"most musical, most melancholy"—the force of the pulse was increased instead of diminished. It has long been known that these subjects of green sickness were the better for being purged, and for some time suspected that a toxic retention was concerned in the production of the symptoms. In general estimation this toxic element is of uterine origin, and I daresay it may largely be so, but I have often heard Sir Andrew Clark maintain that it was alvine, and thus explain the benefit derived from cathartics. My object is chiefly to show that together with œdema in chlorosis we have increased arterial tension where we should least expect it, and recognise a similar attitude of dropsy and vessel to that which pertains to renal disease. All this helps to explain what we have already learned from experience, that whatever else we do in chlorotic anæmia our endeavours must be to rid the blood of its morbid superfluities, and stimulate the eliminative function of the uterus. Thus we find other warrant than that of experience for conjoining aloes with the necessary iron, and only find in new inquiry fresh reasons for the time-honoured practice.

A MODIFICATION OF THE OPERATION OF ENTEROPLASTY FOR SIMPLE STRICTURE OF THE INTESTINE.

BY A. W. MAYO ROBSON, F.R.C.S. ENG.,

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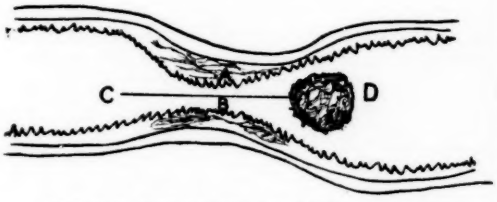
THE method of overcoming stricture of the pylorus by longitudinal section and transverse suture of the incision, originally performed by Heineke and afterwards followed up by Mikulicz, was first applied to a case of simple stricture of the intestine by Mr. H. Allingham.[1] The modification of the operation by the use of the bone bobbin will, I think, be found to present the following advantages: (1) rapidity of execution, since only two continuous sutures are required—one to unite the mucous margin, the other the serous; (2) an immediately patent and efficient channel, preventing tension above the newly joined gut; and (3) protection to the line of sutures until the lymph has become partly organised. The following case is of interest, not only from

[1] THE LANCET, June 23rd, 1894.

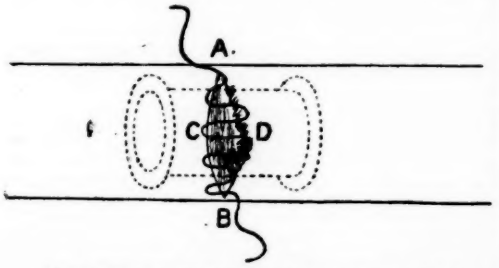
the operative point of view, but from the history of antecedent ulceration of bowel with perforation and recovery.

A thin, delicate girl aged sixteen was sent to me by her medical man, Dr. J. Russell of Batley, on account of a fæcal fistula in the right cæcal region, through which pus and liquid fæces had been passing for some months, during which time she had been gradually losing weight and strength. She gave the history of having had an illness eighteen months previously, when a swelling with tenderness developed in the right side of the abdomen. She had diarrhœa and was feverish, and was told that there was inflammation of the bowels. After some weeks an abscess developed over the cæcum and was opened, a quantity of foul pus being let out. A week after the abscess had been opened fæcal matter began to be discharged from the wound, and this had continued since, though the bowels had been occasionally moved through the anus. On admission to hospital the patient was extremely thin, her bones showing visibly under the skin. There was a fæcal fistula midway between the umbilicus and the right anterior superior spine of the ilium, and the skin around the opening was excoriated, red, and inflamed by the irritation of liquid fæcal discharge and pus. The abdomen was quite flat, and no tumour could be felt. Charcoal administered by the mouth appeared at the fistula in thirteen hours. On July 10th, after laying open the rather extensive sinuses leading from the fistula, scraping them freely with a Volkmann's spoon and as far as possible asepticising them by means of a 1 in 1000 perchloride solution, the abdomen was opened by an incision of three inches, the fistula being the centre of the incision. Adhesions were separated by the fingers and the affected gut brought outside the wound, the peritoneal cavity being protected by sponge packing. The fistula was in the ileum, and while the fingers would easily pass upwards nothing larger than a No. 12 catheter would pass through a stricture fully an inch in length just below the fistula. After passing a director through the stricture, which was evidently cicatricial, it was divided in the direction of the length of the bowel. A decalcified bone bobbin was then inserted and the cut edges were brought together transversely over it, as shown in the diagrams. A continuous catgut suture was



First stage, showing incision from fistula D through to C.

used to unite the mucous margins, and a silk suture the serous surfaces, thus restoring the continuity of the intestinal channel. After carefully cleansing the surrounding structures, the peritoneum, aponeurosis, and skin were apposed



Second stage, showing sides of incision A B drawn apart and ends C D.

in the usual manner. The patient suffered very little from shock, and the bowels were moved naturally on the second day. The deeper parts of the wound healed by first intention; the superficial by granulation. The patient's general condition began to improve at once, and she has never had any bowel trouble since. When seen six months later, she looked a picture of health, had gained her usual colour and flesh, and expressed herself as quite well.

Remarks.—Simple stricture of the bowel is sufficiently rare to make it worth while reporting a single instance; but this case is also of interest from an operative point of view—not simply from the success of the modification of the operation by the use of the bone bobbin, but also because it shows that a plastic peritoneal operation may be undertaken with some prospect of success, though the way into the abdomen be through a foul abscess, if, as in the present case, the walls of the abscess and the surrounding parts be purified before the abdominal cavity is opened.

Leeds.

TWO CASES OF SEPTICÆMIA DUE TO MIDDLE-EAR DISEASE; OPERATION; RECOVERY.

BY W. GIFFORD NASH, F.R.C.S. ENG.

CASE 1. *Septic pleuro-pneumonia following a blow on the head in a boy suffering from otorrhœa.*—A boy aged twelve, who had had otorrhœa for five years, was boxed on the ear on June 16th, 1892. This was immediately followed by headache and seven hours later by vomiting. Next morning headache, photophobia, fever, and delirium were present. Twenty-four hours after the blow I found him lying curled up in bed, objecting to light and interference, delirious, very flushed, and with a temperature of 103° F. and pulse 180. Half an hour later my partner, Mr. Kinsey, gave him chloroform, and I shaved the scalp and forcibly syringed out the right ear, removing a small granulation polypus. Three leeches were applied behind the ear and an icebag to the head. On June 18th he was still feverish, but there was no delirium. He was seen in consultation by Mr. Henry Morris, and with his sanction I trephined and gouged out the mastoid antrum. The dura mater covering the roof of the antrum was also exposed and found to be healthy. No pus was found. On the 20th there were frontal headache and pain in the right shoulder, as also a dry hacking cough suggestive of pleurisy. On the 21st the cough and pain continued. The temperature was 103·4°, the pulse 120, and the respiration 48. On the 22nd the temperature was 104·6°, the pulse 144, and the respiration 60. Pleuritic friction was heard over the left lower lobe and right upper and middle lobes, with numerous scattered patches of tubular breathing; there was also sweating. It was evident that septic pleuro-pneumonia was present. I proposed to explore the lateral sinus, and, if I found it thrombosed, to tie the internal jugular vein. The trephine was applied to the mastoid process over the lateral sinus. This did not pulsate, but looked healthy. A hypodermic syringeful of blood was drawn off, showing that the sinus was not thrombosed. When the needle was withdrawn blood spurted from the puncture. The wound was closed and nothing further done. From June 22nd until the end of July the case was desperate. There were repeated fresh patches of pneumonia with elevation of temperature to 103° or 104°; the pulse varied up to 144, and the respiration up to 72. At one time tubular breathing and friction were heard over the whole of the right lung and lower lobe of the left. The expectoration was fetid, and there were profuse sweating and extreme emaciation. From this desperate condition he gradually recovered. The treatment consisted of milk, eggs and brandy, with quinine and digitalis. During August there were slight occasional rises of temperature. On Aug. 31st he got up, and on Oct. 1st he was allowed out of doors. He then looked as well as he did before the illness. There was no discharge from the right ear, and he could hear a watch tick at 12 in. The right side of the chest was much contracted. In August, 1894, he was in perfect health; the chest showed no sign of contraction; there was no deficiency of expansion or diminution of breath sounds, and no discharge from the ear.

Remarks.—I do not claim that the surgical measures adopted had anything to do with the recovery of this patient, but I believe it would have been culpable to have neglected them when it is considered how fatal these cases are when treated by medical means. There can be very little

doubt that the attack of pleuro-pneumonia of both lungs was set up by the blow on the head, as severe cerebral symptoms set in immediately after it was inflicted. It would appear as if the blow had dislodged some septic thrombus from the middle ear and produced thrombosis of some vein or veins entering the lateral sinus, from which septic emboli were carried to the lungs. The source of the sepsis I believe to have been sewer gas, as the house was proved to be very insanitary. Within nine months there occurred in the house one case of pelvic cellulitis, one of diphtheritic sore-throat, two other sore-throats, two cases of acute otitis media, and two of acute rheumatism. All these, I believe, may be caused by sewer gas. The symptoms of acute rheumatism and septicæmia bear such a close resemblance to one another that I need not do more than refer to them. An interesting feature of the case was the absence of rigors, which are usually considered to be diagnostic of septic thrombosis of the lateral sinus. The question arises, Would it have been better to have ligatured the internal jugular vein? I think it would, even in the absence of proof of thrombosis, for it would probably have cut short the illness and diminished the risk to life arising from the extensive inflammation of the lungs.

CASE 2. *Subdural abscess and septic thrombosis of the lateral sinus; drainage of abscess and sinus; ligature of internal jugular vein; recovery.*—A boy aged fifteen had suffered intermittently for two years from left otorrhœa, which had been treated with antiseptic lotions and powders. A granulation polypus had been removed from a perforation in the upper part of the membrana tympani during the previous summer. On March 20th, 1894, he was supposed to have caught cold, and on the 23rd he began to suffer from earache and headache. On the 29th his temperature was 102° F. There was no loss of appetite, and no sickness or shivering. I first saw him on April 1st and found him in bed, flushed and drowsy; he objected to light and was very deaf. His temperature was 103·6°, the pulse 90, and the respiration 24. The left side of his face was puffy. The discharge from the ear was most offensive. There was slight tenderness over the mastoid antrum and cells, and marked tenderness over the large vessels in the neck. There were no physical signs of any lung or heart affection, and no cough or pain in the chest. There was commencing optic neuritis. After consultation with Mr. Kinsey I operated. First a small trephine was applied just above and behind the meatus, and the middle fossa of the base of the skull was opened. The dura mater was found to be healthy. Next, the mastoid antrum was opened. The bone behind this was very soft, and whilst gouging it a most offensive smell arose. An abscess was opened lying between the bone and the lateral sinus, and about two drachms of foul-smelling pus were evacuated. The wall of the lateral sinus was thickened, discoloured, and sloughing. A free escape was provided for the matter. In the absence of rigors it was not considered necessary to tie the internal jugular vein. Next morning the temperature was 100·4° and the pulse 80. About noon he had a rigor and the temperature rose to 104°. At 3 P.M. I tied and divided the internal jugular vein at about the level of the cricoid cartilage. At that point the common facial vein joined it. There was a free current in the facial vein, but none in the jugular, above their junction. The ligatures were applied above their junction. The ear wound was then reopened and the wall of the lateral sinus cut away, exposing a firm, dark blood-clot filling the sinus. The same evening I was laid up with influenza, so that for the greater part of the further treatment and notes I am indebted to Mr. Kinsey. After this, symptoms supervened which gave rise to considerable anxiety as to whether or not a cerebral abscess was forming. The boy became very emaciated. On the 11th the stitches were removed from the wound in the neck, which had healed by first intention. On that day he began to complain of frontal headache, was very restless, and vomited. He also became drowsy, in consequence of which, on the 15th, the mastoid wound was reopened and enlarged. All granulations were scraped away and about two drachms of pus let out from the occipital portion of the lateral sinus. A probe was passed as far as the torcular Herophili and caused slight bleeding. A drainage-tube was inserted in the sinus and the middle ear thoroughly scraped out. On the 17th he had a rigor, which was followed by a swelling on the left side of the neck, which spread upwards over the face and downwards below the clavicle. On the 19th an incision was made in the swelling in the neck, and some foul-smelling pus evacuated. After this all went well, and by May 16th all the wounds were healed.

Remarks.—This case exemplifies an interesting sequence of events—viz., chronic otorrhœa, suppuration in the mastoid antrum, subdural abscess, and thrombosis of the lateral sinus. The course of events, modified by treatment, was as follows: (1) The subdural abscess and mastoid antrum were cleared out and drained, but already the septic inflammation had involved the lateral sinus; (2) absorption of septic material from the thrombus necessitated ligature and division of the internal jugular vein to cut off the source of infection from the general circulation—the lateral sinus was opened to permit of the escape of the breaking-down clot; (3) it was necessary to reopen and enlarge the mastoid wound to allow pus to escape from the lateral sinus; and (4) the subcutaneous abscess in the neck was opened. The cause of this abscess seems to have been one of two. Either it was cellulitis due to septic material carried by the lymphatics from the wound behind the ear, or it was due to the breaking down of the clot in the jugular vein, between the base of the skull and the ligature.

Obliteration of the left internal jugular vein, by clot or ligature gives rise to less disturbance of the cerebral circulation than obliteration of the right vein, as the superior longitudinal sinus usually enters the right lateral sinus, which is then much the largest. The abnormally low entrance of the common facial vein into the jugular was also of interest, as through it the blood coming from the brain through the angular vein was able to reach the jugular below the ligature. The question arises, Should I have ligatured the lateral sinus outside the torcular Herophili, as is advised by Mr. Arbuthnot Lane? I think it would have been wise to have done so, and certainly better surgery. Suppuration must have occurred as far as the torcular Herophili, and one sees no reason why it should not have gone on extending further. In fact, it probably would have done so had not a drainage-tube been introduced into the sinus. The risk incurred by ligaturing the sinus must be small compared with that from the extension of the septic thrombus.

Bedford.

A CASE OF

TUBERCLE OF THE LEFT OPTIC THALAMUS EXHIBITING INTENTION-TREMOR, AND ATTACKS OF TETANOID RIGIDITY; NECROPSY; REMARKS.

BY ARNOLD J. EDWARDS, M.D. VICT.,

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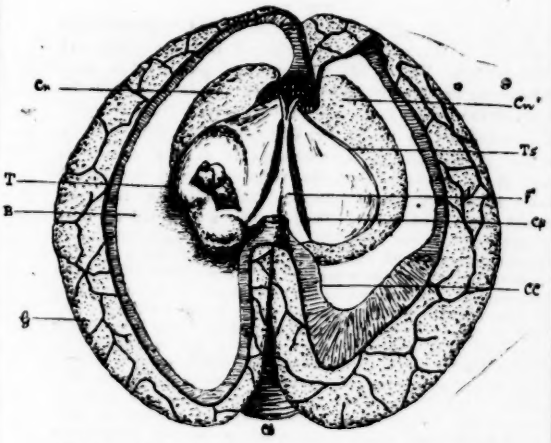
A BOY aged six years was admitted as a home patient at the Chorlton-upon-Medlock Dispensary under my care on Dec. 17th, 1894. The patient was apparently quite well until seven weeks before admission, when the mother noticed that he dragged his right leg on walking. Two or three days after this it was observed, when he was taking his food, that he held the spoon in his left hand, and upon his mother insisting that he made use of the right hand for that purpose this latter hand began to tremble. At first the trembling was slight, but it gradually got more and more marked. For the last three weeks he had complained of severe frontal headache, and there had been vomiting for the last four days. Lately, also, he had not seemed to see things well. The father died two years ago of apoplexy. The mother gave a history of four miscarriages out of eight pregnancies, and had had a sore-throat for six months at a time. The mother's father died of phthisis. On admission an exceedingly well-marked, coarse, jerky tremor was seen in the right arm on movement. This disappeared entirely when the arm was at rest. The movements came largely from the shoulder. There was no nystagmus or syllabic speech. The right arm and leg were distinctly weaker than those of the left. There was no facial paralysis. There was well-marked and persistent ankle-clonus on the right side, but ankle-clonus was not obtained on the left. Both wrist-jerks were present and about equal upon the two sides. The epigastric, abdominal, cremasteric, and plantar reflexes were all obtained, but showed no difference on either side. There

was marked rigidity noticed on passive movement of the right knee-joint. The patient had difficulty in standing unsupported, but closing the eyes did not increase it, nor was there any sign of reeling in one or other direction. With assistance he was able to walk, and the gait was distinctly ataxic. Sensation was universally normal. The bladder and rectal functions were normal. There were no signs of congenital syphilis, and the lungs appeared quite healthy. On December 19th the vomiting had quite ceased under bismuth, but treatment had in no way influenced the headache. On the 22nd there was well-marked optic neuritis of the left eye. There appeared also to be inflammation of the right nerve, but of this I could not be quite certain, as conjunctivitis with a slightly cloudy cornea was present on that side, and the concomitant blepharospasm also rendered ophthalmoscopic examination exceedingly difficult. The other cranial nerves appeared to be normal. Towards the close of the somewhat prolonged ophthalmoscopic examination the patient was suddenly seized with an attack of tetanoid rigidity. He became unconscious, the head was bent back, the spine arched, and the whole body became extremely rigid; the teeth were clenched and both eyes were turned to the right. The face preserved its natural colour. This condition was kept up for about three minutes, and then the muscles gradually relaxed and there was a return to complete consciousness. This tonic condition was not succeeded by any clonic contractions. The mother now told me that he had three similar attacks during the preceding night. I put the patient on large doses of iodide of potassium, combined with mercurial inunctions. On the 23rd he had three attacks of tetanoid rigidity between the hours of six and eight in the morning, the last one being the severest experienced. He fell asleep, worn out, after each attack. When awake he was constantly moaning and complaining of his head. On the 24th he had five attacks of tetanoid rigidity early in the morning. They followed rapidly upon one another. The intention-tremor was not quite so marked as when first seen, and the grasp of the right hand was weaker. On the 25th he had no control either over the bladder or the rectum. He died at 11 P.M.

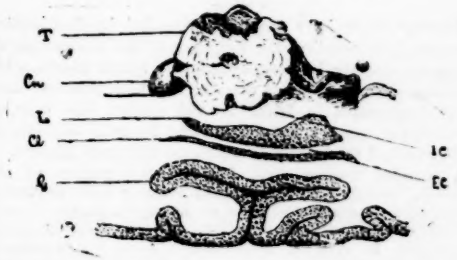
Necropsy.—This was held on Dec. 26th, sixteen hours after death. Post-mortem rigidity was very marked. There was extensive dorsal hypostasis. I could obtain permission to examine the brain only. The skull-cap was normal. The membranes were congested, but did not show any signs of inflammation. A distinct firm tumour could be felt in the left side of the brain. On opening the left lateral ventricle in the usual way a very considerable quantity of clear serous fluid gushed out. There was no excess of fluid in the right lateral ventricle. The tumour was about the size of a large walnut, and was found to be situated in the left optic thalamus. (See Fig. 1.) A vertico-transverse section through the tumour and left cerebral hemisphere showed that the growth was pressing on the left internal capsule. (See Fig. 2.) The floor of the fourth ventricle presented no signs of pressure, and sections through the medulla and the upper cervical region of the cord appeared normal. Microscopical examination of the growth showed it to be undoubtedly tuberculous.

FIG. 1.



Both lateral ventricles were partially opened out, and displayed: T, a tuberculous growth in the left optic thalamus; B, body of left lateral ventricle; Cn, left caudate nucleus; Cn¹, right caudate nucleus; F, fornix; Cp, choroid plexuses; Ts, tænia semicircularis; CC, corpus callosum; G, cortical grey matter; and Cb, cerebellum. (Diagram one-third natural size.)

FIG. 2.



Vertico-transverse section through the growth and left cerebral hemisphere. T, tumour; IC, internal capsule; EC, external capsule; L, lenticular nucleus; Cl, claustrum; Cn, caudate nucleus; G, cortical grey matter. (Natural size.)

Remarks.—The occurrence of attacks of tetanoid rigidity and the presence of well-marked intention-tremor in the right arm are the principal features of interest in the above case. General tetanic rigidity, constant or paroxysmal, has been met with in several examples of tumour of the pons and of the cerebellum, but, after a careful review of the literature of the subject, I have been unable to find a single instance of tumour of the optic thalamus in which attacks of tetanoid rigidity were noted. The rigidity in this case is exceedingly difficult of explanation; in tumours of the pons or cerebellum it is possibly due to pressure upon the medulla. The localised intention-tremor is of interest as bearing upon the pathology of the intention-tremor seen in disseminated sclerosis. Cases such as the above, where we have a definite and localised lesion in the brain, together with trembling on movement confined to a limb, are especially valuable in helping us to arrive at a true conception of the causation of intention-tremor. The tumour here was pressing on the motor paths in the internal capsule, and it seems to me very probable that the tumour would act in a precisely similar manner to a sclerotic patch in the internal capsule. The nerve fibres would be unequally implicated; the functions of a few would be destroyed, the conducting power of a considerable number would be impaired, while others might escape entirely. The stimuli proceeding from the cortex to certain muscles would, owing to the diminished conducting power of the supplying nerve-fibres, be too few, and as a consequence tremor would result; again, unless the amount of contraction of each of the antagonistic or regulating muscles—which are brought into play in all coördinated movements—is exactly graduated, the balance would be disturbed and incoördination as well as tremor would follow. The implication of the nerve fibres to certain muscles, with escape of the nerve fibres to antagonistic muscles, would bring about this incoördination. Further, it is noteworthy that the tremor in the above case was very slight at the commencement, then gradually got more and more pronounced, until finally, in the later stages of the disease, it again became less marked. It will be observed, also, that as the tremor diminished the paralysis increased. These facts would appear to indicate that the tumour was rapidly increasing in size and destroying in its progress more and more nerve tubules.

Manchester.

SUPERANNUATION ALLOWANCE.—Mr. Edward L. Webb, M.R.C.P. Edin., M.R.C.S. Eng., late Medical Officer of the second district, St. George's, Hanover-square, has been granted a superannuation allowance of £76 per annum.

A CASE SHOWING THE VALUE OF THE LEFT SUPRA-CLAVICULAR ADENOPATHY AS A REVEALING SYMPTOM OF INTRA-ABDOMINAL CANCER; WITH REMARKS.

BY W. ROGER WILLIAMS, F.R.C.S.

SEVERAL cases have now been recorded by Continental observers demonstrating the frequency of the association of enlargement of the left supra-clavicular lymph glands with intra-abdominal malignant disease, to which Troisier[1] first directed attention in 1888. As the subject has escaped notice in this country, notwithstanding its great importance in diagnosis, I think the following case will be of interest.

A married woman aged fifty-six, the mother of six children, having for some months suffered from gradually progressive anæmia and loss of strength, together with failure of appetite, constipation, nausea, and dyspeptic symptoms, in August, 1894, began also to experience pain in the epigastric region, for which she consulted a medical man in September. I first saw her in the following October, when she was markedly anæmic and sallow. The ingestion of solid food caused epigastric pain and after a time nausea and vomiting. She complained of a swelling in the epigastric region, but upon examination no intra-abdominal tumour could be detected. The stomach was not dilated, and there were no signs of obstruction. The liver and spleen seemed normal. There was no history of hæmatemesis or coffee-ground vomit. At this time she was very subject to alternate flushing and pallor of the cheeks and extremities, the fingers often becoming quite dead, as in Raynaud's disease. She was also subject to palpitation of the heart and to occasional syncopal attacks. The urine contained neither sugar nor albumen. Under the influence of rest in the recumbent position, with none but peptonised fluid foods, together with medicines containing belladonna and carbolic acid, the pain subsided, and there was temporary improvement. It soon became obvious, however, that the weakness was increasing; and subsequently nausea, vomiting, and thirst became prominent symptoms. In January, 1895, I saw her again, when she was weaker, paler, and more sallow than on the previous occasion. I was unable to detect any intra-abdominal tumour. The case presented many of the features of pernicious anæmia. She was treated with "bone marrow" and Fowler's solution. This treatment soon had to be given up on account of the pain and vomiting it excited. In April an intra-abdominal tumour was discovered. I saw her again in May, when the emaciation, pallor, and weakness were very great. The vaso-motor symptoms had quite disappeared. Nausea, vomiting, and epigastric pain after food still continued, but there was no hæmatemesis. On abdominal palpation a circumscribed mobile intra-abdominal tumour, about the size of a small turnip, could be felt rather to the right of the median line, midway between the umbilicus and xiphoid. It was dull over its anterior surface. There appeared to be no dilatation of the stomach; the dimensions of the liver and spleen were normal; there was no umbilical retraction. The left supra-clavicular lymph glands, as well as those at the upper part of the axilla, were enlarged and hard; these by interfering with the venous circulation had caused the œdema of the head and forearm. This condition was of rather less than a week's duration. It was evidently due to dissemination of the disease in the glands through the medium of the thoracic duct. The recognition of this symptom completely negatived any exploratory operation. Death ensued about five weeks later, and there was no necropsy. The patient was partially unconscious, with muttering delirium, for some days before the end. The rapid formation of the tumour, its mobility, the considerable size attained, the absence of hæmatemesis, gastric obstruction, hepatic and splenic enlargement, and finally the dissemination by the lymphatics, all seem to indicate a tumour of omental origin—probably a malignant endothelioma.

Remarks.—I will conclude with a brief *résumé* of what is known of the left supra-clavicular adenopathy. The first indication of the affection generally is the enlargement and induration of a single lymph gland, situated behind the posterior border of the lower part of the left sterno-cleido-mastoid muscle. Subsequently adjacent glands become similarly affected; and in the event of life being prolonged they ultimately manifest all the symptoms of malignant disease. This occurs without any of the intervening structures, prevertebral glands, lungs, &c., being invaded. All the different varieties of intra-abdominal malignant disease may cause this affection; but it has hitherto been observed with especial frequency in association with cancer of the uterus. It seems probable that this curious pathological condition is due to reflux of lymph, charged with cancer cells, from the thoracic duct into which the cancer cells find their way from infected lumbar glands. I need hardly insist on the great importance of this manifestation in the diagnosis of obscure intra-abdominal disease and as a contra-indication to operation. The glandular enlargement generally first makes its appearance at a late stage of the abdominal disease; it has, however, been known to have appeared nearly two years before death. Several instances of its occurrence have lately been reported secondary to malignant disease of the testicle.[2] Vidal has met with a case secondary to cancer of the stomach.[3] Spinelli has tabulated thirty-four examples of this condition,[4] and he points out that the glandular enlargement may be accompanied by painful sensations in the region of the neck, shoulder, and arm. Care must be taken not to confuse this adenopathy with the "pseudo-lipome sus-claviculaire" of Verneuil, of which I have given an account elsewhere,[5] the latter affection is simply an overgrowth of the fibro-fatty tissue of the supra-clavicular fossa, both sides being affected; and it is usually met with in well-nourished middle-aged women otherwise in good health.

Preston.

[1] Bulletins et Mémoires de la Société Médicale des Hôpitaux, Jan. 13th, 1888; also Archives Générales de Médecine, February and March, 1889.

[2] Troisier: Archives Générales de Médecine, August, 1893. Poncet: Mercredi Médical, Jan. 3rd, 1894.

[3] Bulletins et Mémoires de la Société Médicale des Hôpitaux, December, 1893.

[4] Rivista di Clinica e Terapia, No. 8, 1893, p. 397.

[5] Transactions of the Pathological Society of London, 1890, p. 302.

NOTE ON A RARE FORM OF POST-PARTUM HÆMORRHAGE.

BY SURGEON-CAPTAIN A. W. D. LEAHY, M.D. DURH., F.R.C.S. ENG.,
INDIAN MEDICAL SERVICE.

IN the form of a reprint from the Comptes-Rendus du Congrès Périodique International de Gynécologie et d'Obstétrique Dr. R. A. Gibbons has published a very interesting brochure on what he terms "Tonic Spasm of the body of the Uterus as a cause of Post-partum Hæmorrhage." The condition to which Dr. Gibbons calls attention as a cause of post-partum hæmorrhage is a very rare one, and it is possible that its very occasional occurrence may have led many practical obstetricians to even doubt its existence. That such a condition does occasionally occur causing post-partum hæmorrhage I for one do not doubt, and I can recall two distinct cases of its occurrence in my own practice. The majority of us have been taught, and believe, in the correctness of what the late Professor Matthews Duncan lays down in his writings. Dr. Duncan says: "The proposition I enunciate is that it has never been shown that uterine hæmorrhage of the ordinary post-partum kind ever takes place from the uterus when it is in a state of moderately firm contraction." But the condition of the uterus to which Dr. Gibbons directs attention as a cause of post-partum hæmorrhage is one which its external appearances would lead one to believe was a state of moderately firm contraction, but which internal examination shows to be one of tonic spasm of its walls. The two cases to which I have referred as having occurred in my practice presented themselves at an interval of fourteen years. The first I met with during my period of residence as obstetrical officer to the Charing-cross Hospital, London. The second occurred to me here in Calcutta three years ago. They were curiously alike, and as they may prove of some interest to my professional brethren I append short notes of each.

CASE 1.—A woman aged twenty-seven, married seven

years, multipara, was attended by me in January, 1878. The patient was a small, anæmic, nervous woman, and informed me she had suffered from severe flooding after each of her three previous labours. This note was made at the time of her taking out her ticket from hospital. Her father was an epileptic, but she herself had never had a fit. She was an only child. Her labour commenced on the 13th at 6 P.M.; the os was fully dilated at 10 P.M., and the second stage was over at 2 A.M. There was nothing abnormal in her labour, but, bearing in mind her previous experiences, a considerable amount of care was given to the third stage, and after expulsion of the placenta the uterus was grasped and kneaded. It contracted well, was fairly hard, but continued large, and felt somewhat irregular. Then to my astonishment hæmorrhage set in. The bleeding was profuse and in gushes. The patient quickly became collapsed, her pulse failed, her skin became moist and clammy, and she fainted. During the hæmorrhage I followed the usual course of treatment, introduction of the hand into the uterus, clearing out its contained blood, the injection of hot and of iced water, and the placing of ice within the uterus, but these remedies failed. The bleeding continued in spite of the uterus being grasped both externally and internally, and I noted that its walls were hard. The patient I believed to be on the verge of death, and as she fainted I felt the walls of the uterus first relax and then rapidly and regularly contract, forcing my hand from within its cavity into the vagina. The contraction was sustained and the woman recovered, but was weak for weeks afterwards.

CASE 2.—A woman aged thirty-two, married four years, multipara, was confined on Aug. 9th, 1892. After each of her two previous labours she had nearly died of post-partum hæmorrhage. She was a fair, delicate-looking woman of an extremely nervous disposition, and looked forward with great dread to the ending of her present pregnancy. She was attended by Dr. Harvey in her first labour and by Mr. Joubert in her second. In this case, again, the labour was in every way perfectly normal. The first stage was of average duration; the second somewhat rapid. After the end of the second stage a large dose of ergot was administered and the placenta expressed by Credé's method fifteen minutes after the birth of the child. While my hand was on the abdomen grasping the uterus I felt it become softer, enlarge, and then harden again. The organ was irregular in shape, and hæmorrhage at once declared itself. The routine course of treatment was pursued. Hot and iced water was used internally. Ergotinine was injected hypodermically. The interior of the uterus was irrigated with ferric chloride and water. The uterus was grasped between the hands, one within its cavity and the other upon the abdomen, but the hæmorrhage continued. The patient was pulseless, with sighing respiration, complained of noises in her ears, blindness, and rapidly became unconscious. As her consciousness left her I felt the walls of the uterus soften, and this softening was followed by equable and firm contraction which drove my hand down into the vagina. The contraction persisted, but the hæmorrhage ceased. The patient recovered, but for weeks she was extremely feeble and suffered much from fever.

This, shortly, is an account of the only two cases I have met with which appear to me to accurately fit the condition described by Dr. Gibbons—viz., "persistent tonic spasm of the walls of the body of the uterus causing post-partum hæmorrhage." Such cases appear, as a rule, to present the following points in common: (1) the patients are usually neurotics; (2) successive labours in the same patient are always attended by post-partum hæmorrhage; (3) the cases are of rare occurrence; and (4) the hæmorrhage resists ordinary attempts to control it, and its cessation is brought about by syncope with consequent relaxation of the spasm affecting the uterine wall and subsequent contraction. Perhaps, after all, in these cases the etiology is not of such importance as the treatment, and it does not matter very much whether we include them under the heading of "contraction without completeness of retraction" or ascribe them to apolarity or tetany of the body of the uterus. Still, if the view set forth by Dr. Gibbons is correct, if these cases are due to a real spasm affecting the body of the uterus, then, I think, we must admit the value of his view as indicating a line of treatment to be adopted in such cases. In his brochure Dr. Gibbons logically follows out his view of the etiology of these cases by recommending the administration of an anæsthetic as the best form of treatment, and if a third case occurs to me in my own practice I shall certainly use chloroform. The clinical and striking point about these cases of post-partum hæmorrhage is that the body of the uterus can be felt above the pubes perfectly hard, but not regularly contracted, and at the same time the existence of an actual cavity within the body of the uterus from which the bleeding occurs is plainly evident. This short note has no pretensions to originality, and my only justification for having written it is that it may be of some use to my professional brethren in calling attention to a rare form of post-partum hæmorrhage, and indicating a possibly successful method of treating it.

Calcutta.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum propias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.* lib. iv. Proœmium.

WESTMINSTER HOSPITAL.

A CASE OF UNILATERAL TUMOUR OF THE PONS; DEATH; NECROPSY.

(Under the care of Dr. DE HAVILLAND HALL.)

THIS interesting contribution to the literature of the lesions of this region is a very complete one, and is, therefore, of much value. Dr. Starr has written on this subject, describing a case which was under his care, and giving an abstract of twenty-six others which he had collected from various sources. He considers it possible to arrive at a very exact diagnosis of lesions in this region and summarises his conclusions as follows:—"1. If in any case anæsthesia of one side of the face occurs (not due to neuritis of the trigeminus or the cortical lesion) the lesion lies in the medulla or pons, in the outer third of the formatio reticularis. Its position in this part is to be determined by the other symptoms present; for if it is situated high up (cephalad) in the pons it will be on the side opposite to the anæsthesia, and if it is situated lower down (caudad), in the pons or in the medulla, it will be on the same side as the anæsthesia. 2. If in any case anæsthesia of the limbs occurs (not due to cerebral lesion) the lesion lies in the medulla or pons, in the inner two-thirds of the formatio reticularis, and upon the side opposite to the anæsthesia, or in the spinal cord. 3. If one side of the face and the limbs of the opposite side are anæsthetic, the lesion affects the entire lateral extent of the formatio reticularis and lies in the medulla or in the pons, below the point of union of the ascending and descending roots of the fifth nerve. 4. If the face and limbs of the same side are anæsthetic, the lesion lies in the brain at a point higher than the junction of the ascending and descending roots of the fifth nerve in the pons. Its position is then to be determined by other symptoms. It may involve the entire formatio reticularis in the upper pons, or crus cerebri; it may be situated in the posterior part of the internal capsule; it may lie in the centrum ovale, destroying the radiation of sensory fibres from the internal capsule; or it may be in the sensory area of the cortex in which all of these tracts terminate."[1] For the account of this case we are indebted to the medical registrar, Dr. J. Porter Parkinson.

A labourer aged forty-five was admitted to the Westminster Hospital on April 9th, 1895, complaining of headache and paralysis of his face. He was a single man, coming of a long-lived and healthy family. He had small-pox in 1875 and contracted syphilis in 1877, having a chancre on the penis followed by sore-throat and secondary rash, neither of which were very severe, and both disappeared rapidly under treatment, since which time he had been well. There was some history of excess of beer, but not of spirits. His illness commenced in November, 1893, with some pain over the left malar bone, which lasted three months, and nothing fresh

[1] Sajous' Annual of the Universal Medical Sciences, 1894, vol. ii., A 40, Medical Record, New York, 1893.

was noticed till April, 1894, when he had violent attacks of headache on the vertex and left side of the head, coming on almost daily and obliging him to cease work; this lasted till the end of May, when he resumed work, but noticed that his mouth was drawn to the right. In August, 1894, he was again seized with a burning pain in the left side of the face, but managed to work till Sept. 1st, 1894, when his left eye became inflamed; he was then treated for a month at the Ophthalmic Hospital, Moorfields, and finally had the eye removed. Early in January, 1895, he had attacks of vomiting coming on about half an hour after food, which recurred for three months and were accompanied by severe headaches, while about this time he noticed soreness of the left side of the mouth, cheek, and tongue. For the last year his speech had been rather defective. At this time the patient was a man of muddy complexion, with grey hair, and arcus senilis; he was rather anæmic and wasted; there were a few pigmented scars on the legs, but none elsewhere. His arteries were tortuous and fibroid; the pulse was normal and regular. He had severe burning headache above the left zygoma, then there was great tenderness to pressure. His mind was clear, though torpid, and he had no giddiness. His speech was thick and blurred, though distinguishable. The left eye had been removed, but the right had no paralysis, and its pupil reacted to light and accommodation; the fundus was normal. There was slight nystagmus on looking to the right. There was paralysis of all the muscles supplied by the left facial nerve, except for slight movements of the eyelids and forehead when the opposite side moved. The whole region supplied by the left trigeminal nerve was completely anæsthetic, and there was also paralysis and wasting of the left temporal and masseter muscles and apparantly also of the external pterygoid, for when the mouth opened the chin deviated to the left. The skin of the face was rather glossy on the left side, but there was no loss of hair or other trophic change. There was no loss of hearing, smell, or taste on either side. The left vocal cord lay in the cadaveric position, and did not move on articulation; the uvula was drawn to the right, and the arch of the soft palate relaxed on the left, with diminished palatal reflex. There was no paralysis or wasting of the tongue, which was protruded straight forward, but he complained of great soreness on its left side and toothache on the same side. The movements were good in the head and neck. The grasp was slightly less on the right side, and there were increased tendon reflexes in both arms, but no sensory or motor changes. The gait was rather weak and stiff; there was no weakness of the legs, but the knee-jerks were abnormally active, and ankle-clonus could be obtained. There was no affection of the bladder or rectum. There was nothing abnormal in the chest or abdomen, except that the liver was slightly enlarged. The urine was of sp. gr. 1008 and neutral. It contained no albumen or sugar. There was a slight deficit of urates. The patient was given a mixture containing mercury and iodide of potassium, but his headache and malaise continued till April 25th, when he began to have difficulty in swallowing; this improved in a few days, but returned, till finally an attempt to swallow produced choking fits and rejection of the liquid food, so that a catheter had to be used for feeding. On May 7th there was some loss of sensibility to heat and cold in the right arm and leg, and a week later he began to lose power in this side. The choking fits returned independently of food, and he occasionally coughed up a mucoid expectoration. There were detected signs of bronchitis and broncho-pneumonia at the base of the right lung, and the temperature, which previously had been normal, rose to 101·6° F., to drop next day to normal. These fits of choking increased in frequency and exhausted the patient, who was already very weak from the slight amount of nourishment he was able to swallow, till he died on May 17th, about six weeks after his admission. At the necropsy, made by Dr. Hebb, the dura mater was found to be non-adherent to the brain, except over the left lobe of the cerebellum, and for about an inch in the middle of the third left temporo-sphenoidal convolution, where it was firmly attached, and the subjacent cortex was atrophied. The inner wall of the straight sinus was thickened and felt like a solid cord, though the lumen was still patent. In the left cerebellar peduncle, stretching as far as the middle line of the pons, was an elongated gumma measuring 1½ in. by ½ in., firm, gray, and glistening, with central fibro-caseation. The pons was larger than natural and felt boggy. The arteries at the base were normal. The left Gasserian ganglion was atrophied, so that it was about half as large as the right, but there was no thickening around it; the root and divisions of the trigeminal were all thin and atrophied. The left half of the medulla was much atrophied and about three-quarters the size of the right, and there was some wasting of the facial and vagus nerves. There were no changes to be seen in the fresh cord. There was very marked wasting of the intrinsic muscles of the larynx on the left side; also there was well-marked syphilitic aortitis. The lower lobes of both lungs were pneumonic and friable, except the lower part of the right lung, where there was a mass of pigmented fibrous tissue, the superjacent pleura being thickened, white, and opaque—evidently the remains of a syphilitic lesion. The rest of the organs were apparently normal.

Remarks by Dr. J. PORTER PARKINSON.—The diagnosis of this case did not present much difficulty; the paralysis—complete of the trigeminal nerve and partial of the facial nerve—indicated a lesion in the position or neighbourhood of the nucleus of the trigeminal nerve, and when the rightsided hemiplegia became marked this was certain. The evidence of previous syphilis pointed to the lesion being due to a syphilitic lesion, while the absence of involvement of other cranial nerves, such as the auditory nerve, made one suspect the lesion to be in the brain substance. The gradual onset of bulbar symptoms was evidently due to extension of the lesion downwards. The case from the first symptom lasted thirteen months, and it is interesting to note that it began by pain referred to the extremity of the malar twig of the trigeminal nerve. The gumma appeared to press equally on the reticular formation and the pyramidal bundle of the pons, and the loss of sensibility to heat and cold on the right side may have been due to pressure on the former. It would be useless to try to make any deductions from an isolated case but unilateral tumours in this situation are sufficiently infrequent to make it worth while placing each one on record.

WEST HERTS INFIRMARY.

CASE OF PERFORATING GASTRIC ULCER; LAPAROTOMY; DEATH; NECROPSY.

(Under the care of Dr. RUSSELL STEELE.)

THIS case is one of the kind to which special attention has been frequently drawn in the columns of THE LANCET by reason of the great importance of such cases as an addition to our somewhat imperfect knowledge of the subject. The complication which apparently proved fatal, that of the escape of stomach contents through a second ulcer in the posterior wall, is one which need not be in any way regarded as weighing against operation; it is very rare to meet with more than one ulcer. Then, again, it has been calculated that of ulcers on the posterior wall only 2 per cent. perforate, as opposed to 85 per cent. of those situated on the anterior wall. The type of patient appears to have been typical of that recognised as characteristic of the sufferer from gastric ulcer. The promptitude of diagnosis and management of the case were all that could be desired, and we can only regret that the unusual, almost unknown, complication prevented the attainment of the hoped-for success. For the notes of this case we are indebted to Dr. William Martin, house surgeon.

A female patient, unmarried, aged twenty-one years, was admitted to the West Herts Infirmary, Hemel Hempstead, at 9 P.M. on Nov. 17th, 1894, suffering from great shock. She was too ill to go very closely into the history, but the following points were elicited. For about six months she had been troubled with dyspepsia, which had been much worse for about two months. She had severe pain in the "stomach and back" on taking food. The pain, which came on soon after taking anything, was relieved by vomiting. For some time she had vomited after every meal when any attempt was made to take solid food. The pain, although aggravated by ingestion of food, was often felt very severely, quite independent of this, especially in the back. She had never to her knowledge vomited blood or passed any by the bowel. Menstruation began at nineteen years of age, was regular for a short time, but had been absent for six months. On Nov. 17th she was about her ordinary work as a nursemaid during the day. She had dinner at 2 P.M., consisting of salt beef and potatoes, but took very little. She had nothing else by the mouth after this. At 5.30 P.M. she was in her room doing her hair, when, as she was stretching her

arms up, she suddenly felt intense, agonising pain in the abdomen, and was just able to throw herself on her bed, where she was found soon afterwards almost insensible, and Dr. Russell Steele was sent for. He found her at 6 P.M. lying "curled up" on her side in bed, with all the signs of great shock. She had vomited several times before his arrival, and did so again while he was with her. The vomited matter, all of which was inspected, showed no trace of blood and seemed to consist only of partially digested food and mucus. The presence of a perforating gastric ulcer was suspected. A hypodermic injection of morphine was given, and when the patient had rallied somewhat she was carefully removed to the infirmary, a distance of about 500 yards, and admitted at 9 P.M. On admission, although still greatly collapsed, the patient was beginning to rally. She lay quite still upon her back with the thighs flexed and without complaining of much pain. The abdominal wall was tense from contraction of the muscles, but there was no obvious distension. The movements were very slight, the respiration being almost entirely thoracic. On palpation there was some general tenderness, but distinct pain on pressure was complained of below and to the left of the umbilicus. There was no marked tenderness in the epigastric and left hypochondriac regions. The percussion note was dull at the lower part of the abdomen, but tympanitic in the lumbar regions and elsewhere. The liver dulness was normal. An indistinct sense of fluctuation was made out below the umbilicus. A catheter was passed into the bladder, and a few ounces of quite healthy urine were drawn off. Nothing abnormal was found on rectal or vaginal examination. An exploratory operation was strongly advised, but the relatives would not consent without having a night to think the matter over. The patient's general condition improved somewhat up to 12 midnight, after which she gradually grew worse. Nutrient and stimulating enemata were administered during the night. There was no vomiting after admission, and no passage of motion or flatus by the bowel. At 11 A.M. Mr. F. C. Fisher saw the case in consultation with Dr. Steele. At this time the abdomen was slightly distended, tenderness was more general, a distinct fluctuation wave could be made out, and there was dulness on percussion in the lumbar region on each side. The patient was still in fair condition; the temperature was 99° F. and the pulse 125. The consent of the friends was obtained, and at 12·30 P.M., nineteen hours from the onset of symptoms, she was put under ether by Dr. Hubbard, and Dr. Steele, assisted by Mr. Fisher, opened the abdomen. A median incision was made below the umbilicus midway between it and the pubes. On dividing the peritoneum a considerable quantity of turbid fluid with large flakes of lymph gushed out, and the patient became much collapsed. One pint of normal saline solution was injected into the right median cephalic vein with speedy and obvious benefit. A rapid and careful examination of the vermiform appendix and cæcum as well as the pelvic viscera revealed nothing wrong. The wound was then temporarily closed with a sponge and a median incision made between the ensiform cartilage and the umbilicus. The stomach presented in the wound. At first nothing wrong could be made out, but, on passing the hand over to the left under the costal margin the examining fingers caught in a large rent in the anterior wall. It was impossible to bring the perforation to the wound, so an incision was made at right angles, extending to the left costal margin across the fibres of the rectus muscle. By this means a fair exposure was obtained. The stomach was not washed out, and the edges of the ulcer were not pared. The perforation, which was about the size of a florin, was carefully closed with fine silk sutures after Lembert's method, some difficulty being experienced in introducing those on the extreme left. A second row of sutures was introduced with a hold further back in order to take tension off the main line of suture. A glass drainage-tube was then put into the pelvis through the lower wound to facilitate the flow of fluid, and the whole cavity of the abdomen was carefully and systematically flushed, beginning at the site of the sutured ulcer. The solution used was boiled water containing a drachm of sodium chloride to the pint and at a temperature of 108°, the irrigation being continued until it returned clear. The wounds were then closed, an indiarubber drainage-tube being passed down to the region of the perforation through the outer end of the rectangular incision, and the Keith's tube left in the lower wound. The ordinary dressings were applied. The operation had occupied nearly an hour and a half. At its completion the patient was greatly collapsed. One pint and a half of normal saline fluid was passed into the left median cephalic vein, with distinct but temporary improvement. All the usual remedies for shock were assiduously employed, with the result that the patient completely regained consciousness. She was able to recognise and talk to her friends. During this time she complained of much pain in the back. She, however, gradually sank, and, in spite of all that could be done, died at 5.30 P.M.—three hours and a half from the completion of the operation, and twenty-four hours after the perforation. A partial post-mortem examination was made twenty-four hours after death. There were the usual signs of acute diffuse peritonitis. On dividing the great omentum at its attachment to the lower border of the stomach a quantity of fluid, which seemed to consist of inflammatory exudation and partially-digested food, was found. At first it was not clear where this could come from; but on carefully raising the stomach a second ulcer, about the size of a sixpenny-piece, was found, which had perforated owing to the adhesions which had bound it to the pancreas having given way for the greater part of the circumference of the ulcer. As seen, the stomach wall was still adherent to the pancreas for a short distance along the upper margin of the perforation. The stomach and pancreas were carefully removed. On testing the sutured ulcer it was found to be perfectly watertight. The ulcers were almost exactly opposite to each other, the posterior being a little to the right of the anterior. Both were situated almost vertically below the cardiac orifice and about midway between the lesser and greater curvatures of the stomach.

Remarks by Dr. STEELE.—Although unsuccessful, this case appeared to me to be of particular interest and worthy of publication for the following reasons: 1. Although such extensive ulceration was discovered, the patient had never been so seriously ill as to consult a medical man, and, according to her statements and those of her friends, there had never been hæmatemesis or melæna at any time. 2. The ill-defined nature of the physical signs on admission, the fact of the chief signs on examination pointing to some lesion in the lower part of the abdomen led me, in spite of the history of gastric trouble, to explore this region first. 3. A great point of interest and importance was the presence of another ulcer on the posterior wall of the stomach. I think it probable that the adhesion between it and the pancreas may have been broken down during the necessary manipulations for suturing the ulcer on the anterior wall. It was a matter for regret that permission to operate could not be obtained at an earlier period, although the presence of an undiscovered perforation on the posterior wall of the stomach would have caused a fatal result in any case. In conclusion, I wish to tender my grateful thanks to my colleague, Mr. Fisher, and to Dr. William Martin, my house surgeon, for their valuable assistance, as also to my partner, Dr. Hubbard, who kindly administered the anæsthetic.

Reviews and Notices of Books.

A System of Surgery. Edited by FREDERICK TREVES, F.R.C.S., Surgeon to the London Hospital. Vol. I. With two coloured plates and 463 illustrations. Cassell and Company, Limited, London, Paris, and Melbourne. 1895.

[FIRST NOTICE.]

THE appearance of a new text-book of surgery is, or should be, an important event in medical literature, and the volume before us is a notable addition to the standard works on surgery. The whole work will appear in two volumes, of which only the first has at present been published. This is a handsome large octavo volume of over 1100 pages of text, well printed, copiously illustrated, and presenting an attractive appearance. The publishers are to be heartily congratulated on the way in which their share of the work has been done.

"A System of Surgery" is the work of twenty-five writers, with two exceptions surgeons, who have been well selected from among the acknowledged representatives of the present phase of surgical teaching. The twenty-three surgical authors

are general surgeons engaged in the practice and teaching of surgery, and so-called "specialists" are conspicuous by their absence. "The object of this work is to present concisely and with authority an account of the science of surgery as it exists at the present day," and readers of its pages will find in it the best expression of the best teaching of our British medical schools. The coöperation of many writers in producing a single work on surgery is now a well-recognised procedure and seems to be gaining in popularity. It has obvious advantages, and if the writers are well selected and the editor is judicious the merits of the plan far outweigh the disadvantages which result from difference of style and point of view, and from a certain amount of overlapping which cannot possibly be prevented. Having carefully studied the volume before us, we are bound to speak in high praise of it. Mr. Treves shows himself to be an admirable editor, who has wisely allotted the articles among his staff of authors, and in every case the writers show not only a considerable knowledge of the subjects on which they write, but also a particular interest in them. The merit of the different articles varies, of course, but as a whole they attain a very high level of success, and a general uniformity of scope and method of treatment quite equal to those found in any text-book by a single author.

The work is prefaced by an admirable chapter on Surgical Bacteriology from the pen of Dr. Sims Woodhead, written with an easy mastery of the subject and full of practical utility. That a work on surgery should open in this way is a signal proof of the great change that has been wrought in current opinion and teaching by the discovery of pathogenic micro-organisms. The chapters on Inflammation and its Consequences, on Gangrene, and on Wounds and Contusions, by Mr. Watson Cheyne, are an admirable exposition of the latest knowledge and best practice in this department of surgery. It is hardly too much to say that these are the most important chapters in any work on the science of surgery. By far the most important part of surgical pathology is that concerning inflammation and its results, and a knowledge of the healing of wounds, and of the conditions favouring, retarding, and preventing it, underlies all surgical therapeutics. Nowhere will the student find these subjects handled more lucidly and more scientifically than in Mr. Watson Cheyne's articles, and these chapters, together with Dr. Sims Woodhead's, form an altogether admirable introduction to the work. Mr. Lockwood writes on Erysipelas, Pyæmia, Tetanus, and Burns, and his chapter on Tetanus in particular is well up to date. Surgeon-Major Duncan deals with Military Surgery in an article which is concise and clear and shows a very thorough mastery of his subject.

Mr. Makins contributes the chapters on Surgical Diseases due to Microbic Infection and Parasites and on Rickets. Syphilis and Gonorrhœa are discussed by Mr. Jonathan Hutchinson, jun., who also writes on Diseases of the Skin, and in the choice of his subjects as well as in his treatment of them he exhibits the influence of heredity. Mr. J. H. Morgan's brief article on Injuries and Diseases of Lymphatics and Mr. Bowlby's on Injuries and Diseases of Nerves are among the best in the volume.

Mr. J. H. Morgan's is a very carefully written and concise article on Diseases of the Lymphatics and discusses briefly Tuberculous Adenitis, which is dealt with at greater length by Mr. Treves in his article on Tubercle. Some may be inclined to object to this double discussion of a single affection, but it has its advantages when the articles are written by different authors, for the reader has the opportunity of seeing the subject from two points of view. Mr. Bowlby's article on Injuries and Diseases of Nerves is a very admirable one, in which the student will find subjects which are apt to be regarded as difficult and abstruse, dealt with in a clear and concise fashion. This branch of surgery has become of great importance within recent years, not only on account of the introduction of nerve suture and operations for neuralgia, but from the great part that the nervous system is now known to play in diseases of the joints, &c. All these matters are admirably dealt with by Mr. Bowlby. The large and important subject of Tumours is dealt with by Mr. Bland Sutton, whose monograph on that subject and many contributions to our knowledge of certain forms of tumours, especially dermoids and cysts, give him an undeniable claim to be heard. The classification of tumours is simple and comprehensive, and will be highly appreciated by students. This chapter is illustrated by many excellent woodcuts—the subject lends itself to such treatment. The same surgeon deals also with the Diseases of the Jaws, a subject to which he has devoted much attention.

JOURNALS AND REVIEWS.

The Quarterly Journal of Microscopical Science. Edited by E. RAY LANKESTER, F.R.S., ADAM SEDGWICK, F.R.S., and W. F. R. WELDON, F.R.S. New Series, No. 148. Vol. XXXVII., Part 4. June, 1895. London: J. and A. Churchill.—The contents of this part are: 1. The Anatomy of Alcyonium Digitatum, by Sydney J. Hickson, M.A., D.Sc., Beyer Professor of Zoology in Owens College, Manchester. Notwithstanding the circumstance that many distinguished naturalists have examined and written upon the structure of the colonies of this animal known as "dead men's fingers," Professor Hickson has been able to discover various new features, which he has described at length and has illustrated by many excellent drawings. He finds that the polypes forming the colonies contract and expand synchronously with tide intervals, or twice in twenty-four hours. The process of sexual reproduction occurs on our southern coasts during the months of December and January, and the colonies are invariably diœcious. The ova are shot out of the mouth singly at considerable intervals, and the gonads are as long as nine months in reaching maturity. Professor Hickson has satisfied himself that the ectoderm is not ciliated. For the details of the histology of the animal we must refer to the original. A note is appended to Professor Hickson's paper by W. Langdon Brown, B.A., on the Chemical Constitution of the Mesoglœa of Alcyonium Digitatum. It appears to be of the nature of mucin, and at all events does not contain gelatine or nucleo-albumen. The principal article in the part is a Study of Metamerism, by T. H. Morgan, Ph.D., Associate-Professor of Biology, Bryn Mawr College, U.S.A., with four plates. In this article Dr. Morgan takes up the subject of irregularities in the serial repetition of the rings of annelids, which, he points out, possess considerable importance in the interpretation of the general problem of metamerism. He gives the typical forms of modification, the variation in the position of the reproductive organs, the abnormalities in front of or including the fifteenth metamere, the study of embryos, the abnormalities at the posterior end, the modifications of internal structures, the modifications in antennæ of arthropods, the abnormal metamerism of locusts, a study of colour-bands in echinoderms, and regeneration in earthworms. The article is one of considerable research and much interest. The last memoir in this part of the journal is by Edwin S. Goodrich, F.L.S., assistant to the Linacre Professor of Comparative Anatomy, Oxford, and deals with the cælom, genital ducts, and nephridia in Planarians, rotifera, entoprocta, mollusca, and the higher animals. Many illustrations accompany the paper.

The Journal of Physiology. Edited by MICHAEL FOSTER, F.R.S., and J. N. LANGLEY, F.R.S. Vol. XVIII., No. 3. London: C. J. Clay and Sons. July, 1895.—This part contains six articles: 1. On the Escape of the Heart from Vagus Inhibition, with four figures in the text; by Theodore Hough. 2. The Relation of the Action of Carbonic Oxide

to Oxygen Tension, with two figures in the text; by John Haldane. 3. On the Exchange of Blood Gases in Brain and Muscle during States of Rest and Activity; by Leonard Hill and D. N. Nabarro. 4. The Physiological Effects of Extracts of the Suprarenal Capsules, with twenty-six figures in the text; by George Oliver and E. A. Schäfer. 5. On the Physiological Action of Extracts of Pituitary Body and certain other Glandular Organs; by George Oliver and E. A. Schäfer. 6. Note on Regeneration of Præganglionic Fibres of the Sympathetic; by J. N. Langley. The number also includes the Proceedings of the Physiological Society.

Analytical Records
FROM
THE LANCET LABORATORY.

"VITALIA" MEAT JUICE.

(THE VITALIA COMPANY, WALTHAM-BUILDINGS, 1, HOLBORN-CIRCUS, E.C.)

WE have not examined a more powerful meat "expression" than that which significantly enough is called "Vitalia." It is free from objectionable preservatives, keeps perfectly fresh for a reasonably long time, and has a pleasant, agreeable flavour characteristic of the freshly expressed juice of uncooked meat. It turns quite solid on heating, a fact due to its richness in coagulable albumen, which amounts to no less than 21 per cent., while the uncoagulable matters amount to 12·50 per cent., leaving a difference of 66·50 per cent. which may be regarded as water. The mineral matter was equal to 6·52 per cent. and contained phosphates and iron proportional to the excellent quantity of meat principles present. These results make evident its potent properties as a restorative, stimulant, and nutrient.

OBESITY BISCUITS.

(CALLARD AND CO., 65, REGENT-STREET, S.W.)

The elements of our common diet contributing most to the formation of fat have been carefully excluded from these biscuits, which have therefore been prepared without starch, sugar, or butter. Our analysis is in perfect accordance with this statement, since we found ether extracted no butter fat and boiling water practically no starch or sugar. In spite of this depletion the biscuits are of unquestionable food value, as we also found that they contained slightly over 3 per cent. of nitrogen, which adopting the factor 6·25 would represent a fourth part of their weight as consisting of the so-called albuminoids. It only remains to add that their palatability is remarkable considering the entire absence of the substances already alluded to.

(1) SYRUP CINCHONÆ HYDROBROM; (2) SYRUP CINCHONÆ ET FERRI HYDROBROM.

(FLETCHER, FLETCHER, AND CO., HOLLOWAY, N.)

These preparations deserve praise because each is a successful and elegant pharmaceutical combination of well-known valuable therapeutic agents. The first is a perfectly bright, clear, reddish-brown liquid and quite permanent in composition, though it contains the whole of the important principles, together with the aromatic constituents of selected cinchona bark, associated, moreover, with bromine. Its administration affords all the advantages in regard to the tonic properties of the bark, and the success of the combination is such, it is said, as to obviate the disagreeable effects (headache and gastric disturbance) which not infrequently follow the administration of ordinary tinctures. The syrup cinchonæ et ferri hydrobrom is equally satisfactory. It is, as might be expected, slightly darker than the former compound, but just as perfectly clear and bright. These improvements, which Messrs. Fletcher have most satisfactorily effected, are of real importance, as by ensuring greater certainty of action they are calculated to give increased confidence in the use of one of the most valuable tonic combinations which the Pharmacopœia affords. It should be added that the advantages of these standard and reliable preparations of cinchona are secured also in the agreeable form of an excellent wine which is called "Vibrona."

CONDAL WATER.

(CONDAL WATER CO., LIMITED, LAMBETH-HILL, E.C.)

We have recently confirmed in our laboratory the published analysis of this natural aperient mineral water. It is bottled at the Rubinat spring in Spain, and is highly mineralised with sulphates, with the important distinguishing feature, however, that it contains a proportion of sodium sulphate largely in excess of the corresponding magnesium salt. Thus the sulphate of soda amounts to 45 grammes per litre, and the magnesium sulphate to a little over 3 grammes per litre. On this account probably the taste of the water is only slightly bitter and is soft and saline. Since the sodium salt as regarded at present has certain advantages over magnesium sulphate in that it has less tendency to produce irritation in the intestinal tract, Condal Water may be given with confidence, and especially, it would appear, in certain idiosyncratic cases.

OPHIR WINE.

(P. B. BURGOYNE AND CO., 6, DOWGATE-HILL, CANNON-STREET, E.C.)

The vineyard on Mount Ophir whence this wine derives its name is situated at a considerable elevation in Rutherglen, in Victoria Colony, Australia. The soil is rich in ironstone, from which it is concluded that the wine produced there becomes of a ferruginous character. Our analysis of it was as follows: Alcohol, by weight, 13·85 per cent.; by volume, 17·08 per cent.; proof spirit, 29·92 per cent.; extractives, 3·29 per cent.; sugar, 0·28 per cent.; total acidity, reckoned as tartaric acid, 0·48 per cent. It is a rich, fruity, and robust red wine, containing, as claimed, a definite quantity of iron in solution, the actual amount of which, according to our analysis, was equal to one-seventh of a grain per pint, or, broadly, one grain per gallon. Considering the composition and character of grape constituents, the iron is undoubtedly present in an organic form and favourable for absorption and appropriation in the system. The wine probably serves, therefore, as an effective and agreeable tonic, referable partly to the important quantity of iron contained in it and partly to its richness in fruity elements. Whilst it is practically free from any acidity it contains also only a trifling quantity of sugary constituents. Its flavour is peculiar, but full and round. It does not obviously belong to the class of light table wines, but merits a foremost place amongst those vigorous wines of the Burgundy type, which may be taken in moderate quantity with advantage by those requiring improvement of tone and vigour.

NEW TABLOIDS.

(BURROUGHS, WELLCOME, AND CO., SNOW-HILL BUILDINGS, E.C.)

Some useful additions have recently been made to the large number of medicaments now embracing most of the preparations of the Pharmacopœia which are procurable in the form of tabloids. "Gregory's Powder" tabloids contain a proportion of sodium bicarbonate in the place of magnesium carbonate, the use of the sodium salt being supposed to give a more beneficial result than ordinary compound rhubarb powder. Tabloids of ipecacuanha wine (five minims) afford a convenient means of administering ipecacuanha wine as an expectorant, a single tabloid slowly dissolved on the tongue producing the well-known effect of the wine. The portability in particular of this preparation is an obvious advantage. The composition of nasal tabloids is based upon a formula suggested by Dr. Carl Seiler for the preparation of a solution which is used with good results as a douche for the nostrils or as a gargle in nasal or pharyngeal catarrh. It is an alkaline and powerfully antiseptic compound, containing

the bicarbonates, borates, benzoates, and salicylates of soda, with eucalyptus, thymol, menthol, and oil of gaultheria. The solution, as may be gathered, possesses a very agreeable aromatic smell, and it is said to be effective also as a mouth wash in fungoid formations or for mercurial stomatitis.

EUCALYPTUS SANITAS SOAP.

(THE SANITAS COMPANY, LIMITED, LETCHFORD'S-BUILDINGS, THREE COLT-LANE, BETHNAL GREEN, E.)

On analysing this soap we found that the ingredients are well adjusted in accordance with the delicate requirements of a toilet soap; it contains no free alkali or other ingredients injurious to the skin. Little else in favour of the preparation considered merely as a soap need be added. In the present case, however, the soap is pleasantly medicated with "sanitas" and eucalyptus, both of which possess hygienic properties. It is, further, an economical soap, since we found that it contains only a minimum of moisture.

(1) FINE CUT, AND (2) MEDIUM OATMEAL.

(W. DUKE, "ANGUS" OATMEAL AND BARLEY MILLS, KIRRIEMUIR.)

Samples of both coarsely and finely ground oatmeal were submitted to us, which are described as being prepared by the "newest and most approved milling machinery." However this may be, both products possess a fine, rich flavour characteristic of a superior product, while the process to which the grains have been submitted undoubtedly improves the digestive qualities and flavour of the meal, making it generally more suitable for dietetic requirements.

CHAMPAGNE VITALITÉ: VIN DIGESTIF.

(AYALA: HENRI LAURANCE ET CIE. LONDON: MAXTON AND CO., 35, WALBROOK, E.C.)

An evidently choice and dry wine containing an addition of pepsin which we found to exhibit distinct digestive action upon egg-albumen. Thus its digestive action was readily ascertained by slightly acidulating the diluted champagne with hydrochloric acid, and observing the effect of this liquid, at blood heat, upon thin slices of hard-boiled white of egg. The action was at first slow, but subsequently (in a few hours) the white of egg was quite dissolved. The composition of the wine, according to our analysis, was as follows: Alcohol, by weight, 11·08 per cent.; by volume, 13·71 per cent.; proof spirit, 24·03 per cent.; extractives, 2·70 per cent.; mineral matter, 0·30 per cent.; sugar, 1·50 per cent.; total acidity, reckoned as tartaric acid, 1·07 per cent. Apart, therefore, from presenting the generous qualities of a superior champagne, this wine doubtless affords also the additional and important advantage of serving as a mild digestive.

THE A.H. DISINFECTANT (LIQUOR CRESOLI SAPONATUS).

(A. HELBING, 25, BOUVERIE-STREET, FLEET-STREET, E.C.)

Liquor cresoli saponatus is a powerful antiseptic compound consisting of a soapy solution of creosol, which in crude coal tar is associated with carbolic acid, but from which it is easily separated by distillation. This preparation offers distinct advantages, since while it is undoubtedly a strong bactericide it is practically non-poisonous, and the presence of a noteworthy proportion of soap renders it bland, non-corrosive, and non-irritant.

CONFECTIONS MADE IN SILVER PANS.

(G. PEARSON, NEWCASTLE-CHAMBERS, NOTTINGHAM.)

In the preparation of any substance destined for human consumption we are always glad to record the fact of measures being taken to ensure the utmost possible purity of the product, especially in regard to the possibility of contamination with metallic or other injurious substances. Such is the case with some specimens of butter-scotch and almond rock of the above manufacturer which we have recently received and which are made in silver pans. In view of these admirable precautions it could only be expected that the choicest and purest ingredients would be employed in their preparation. The excellent flavour of the sweetmeats referred to afforded confirmatory evidence on this point.

LACTOPEPTINE TABLETS.

(J. M. RICHARDS, 46, HOLBORN-VIADUCT, E.C.)

The composition of "Lactopeptine" tablets is based upon the following formula of lactopeptine powder: Sugar of milk, 40 oz.; pepsin, 8 oz.; pancreatine, 6 oz.; diastase, 4 drachms; lactic acid, 5 fluid drachms; and hydrochloric acid, 5 fluid drachms. We have proved its digestive powers by observing its proteolytic action upon egg albumen. Each tablet contains 5 grains of lactopeptine, the uses and value of which are obvious from the formula.

PURITAS DRY SOAP.

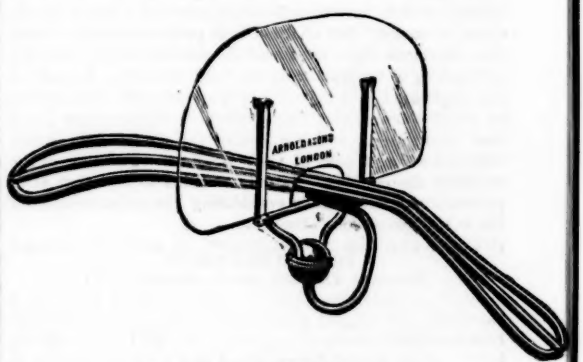
(THE DIANA MANUFACTURING SYNDICATE, LIMITED, 15, BLOSSOM-STREET, BISHOPSGATE, E.)

Whilst admitting that this soap is probably of service for drastic cleansing operations, we do not understand why it should possess any claim to special disinfecting properties. It is a dry powder, having a slight aromatic smell and containing free alkali in the shape of carbonate of soda.

New Inventions.

A SHIELD FOR PROTECTING THE FACE DURING APPLICATIONS TO THE THROAT IN DIPHTHERIA.

I VENTURE to bring to the notice of the profession an appliance which I have designed for the protection of the face during examination of, and application of remedies to, the throat in cases of diphtheria &c. Having myself contracted diphtheria on two occasions from contact with matter coughed out whilst examining in the usual way, and knowing that such accidents are not uncommon, it occurred to me to interpose a shield of some transparent material, and I found that mica or talc answered the purpose exceedingly well, and I am now able in cases of this description to make a careful



Tongue depressor with shield.

examination in comfort. The metal tongue depressor is well curved and has a detachable carrier; the face shield is of mica, the carrier being connected with a ball and socket joint, and sliding backwards and forwards on a bar or under-surface of the depressor, so that the shield is freely movable and can be used for adults or children. By removing the carrier the depressor can be used in the ordinary way. Being of mica the shield is very light, transparent, and easily kept clean. To prevent clouding in cold weather it may be warmed before use. When artificial illumination through the shield is required I use a candle, lamp, or Mackenzie's laryngoscopic mirror. Messrs. Arnold and Sons, of West Smithfield, are the makers.

ALEX. W. W. DOWDING, M.D., M.S. Durh.

Wanstead, Essex.

THE LANCET.

LONDON: SATURDAY, AUGUST 3, 1895.

IT was a happy thought of the President of the British Medical Association, Sir J. RUSSELL REYNOLDS, to place in the very front of his interesting address the corresponding address delivered twenty-two years ago by the ever to be lamented Dr. PARKES, and to contrast the state of medicine in 1873 with its state in 1895. All who remember that admirable man know how he loved every branch of medicine, and with what insight he saw into the very depths of the subject as it presented itself then. And no one will peruse the address which he delivered to the Association when it last met in London without being charmed with its spirit, astounded by the range of its knowledge, and impressed with the prospects of medicine. Yet there was one passage at least which justifies Sir J. RUSSELL REYNOLDS's reflection as to the bewilderment and perplexity which his departed friend would experience were he now to "revisit Netley, or his still older haunt, University College, and see his house surgeon feeding a patient on 'sweetbreads' or injecting thyroid extract for the cure of myxœdema." After alluding to the two great discoveries which at the beginning of his studies had hardly yet made their full impression on medical practice—viz., RICHARD BRIGHT'S recognition of albuminuria and LAENNEC'S application of the ear to discover the normal and abnormal action of the heart and lungs—Dr. PARKES said: "These two discoveries stand high above all that has followed, nor is it likely that equal advances will be made in this century." It would not be fair to bind a generous and hopeful mind like Dr. PARKES'S to a piece of prophecy which even such minds do well to avoid. But it cannot be doubted that if he had lived to hear his friend's address of 1895, recounting the advances of medicine in the last third of the nineteenth century, he would have admitted that in promise, if not in actual and immediate interest, the discoveries and advances of the later period are in no way unworthy of comparison with those which he so justly magnified in the first third. Sir J. RUSSELL REYNOLDS'S account of recent advances which give a character to the epoch in detail will be read with attention by our readers. But in one sentence he seizes upon the really interesting feature common to them all. The sentence is this: "What my object in this address is mainly concerned with is to draw your attention to that which seems to me to be the most striking fact of modern physiological, pathological, and therapeutical research—viz., the power of 'living' things for both good and evil in the conservation of health and in the prevention or cure of disease." Sir J. RUSSELL REYNOLDS in this one sentence hits off the great advance of medicine. In the time of Dr. PARKES no doubt the foundation of all biological, or rather bacteriological, work had been laid in the discovery of the bacillus anthracis (1849) by POLLENDER. But its fruitfulness had not yet been gauged, and a long interval was to elapse between the foundation and the superstructure. Not to mention others, how rich has been the fruit of that seed which has led to the discovery of the actinomycosis (1877), of the bacillus lepræ (1879), the parasite of ague (1880), the bacillus of tubercle (1882), of glanders (1882), of diphtheria (1884), and of tetanus (1884). With such revelations of the relation of "living" things to the great groups of disease which make up so much of the misery of the world, and of means whereby they can be controlled or destroyed, he President might well say that "our failures in the last twenty years are small in comparison with our successes, and that nothing that has happened in this time is to be compared in importance with the new revelations that have been made of the potency and the prepotency of life—the power of life in life—in health, in disease, and in its treatment." There is one broad distinction which seems to differentiate the significance of the discoveries which figured so largely in the mind of Dr. PARKES from those which strike us so much since. They had reference rather to processes of degeneration slow in their progress, and possibly produced rather by non-living substances; these have reference for the most part to gravely acute diseases which act quickly and often end fatally, and which await, with one or two exceptions, that greater discovery still, the discovery of a medicine, organic or inorganic in its nature, which shall destroy them before they have destroyed the body in which they commit their ravages. This, indeed, is the great achievement for which men wait and which is needed to complete the fame of medicine. There are already indications of this great consummation. We only want a germicide for other bacilli which will act on them as quinine acts on LAVERAN'S bodies, or an antitoxin which will act on specific poisons as PASTEUR'S virus does on those threatened with rabies, or as vaccinia does on those exposed to small-pox. This is all, and medicine will enter on a new sphere of usefulness and of glory. But though this is all, it is much. Its realisation may well take the remaining years of the century. Meantime, the public is in danger of expecting too eagerly and confidently this consummation, and not the least duty of the profession to the public in its present mood is to moderate its eagerness by being severely critical and almost sceptical in its own mood. We see with pleasure that this is its attitude towards one antitoxin at the present moment of surpassing interest. The President of the British Medical Association was not less discerning in his allusion to the advantage accruing to medicine of late years from deeper knowledge of the functions of organs some of which had been thought altogether useless and superfluous, and of the interdependence of tissues and organs on each other of which the therapeutics of myxœdema supply the most striking illustration.

We must bring our notice of this address to a close. It will command respect from the fundamental thought which runs through it all—the respect for life as for something as mysterious in its virtues as it is in its nature. A physician never appears to greater advantage than when he thus recognises the "living" principle as that with which he has to reckon in disease, either for its causation or its cure. It was fitting that at the close of

such an address Sir J. RUSSELL REYNOLDS should indulge in a more general view of life under the head of professional life and social environment. He must be strangely out of place who can be in the profession and not realise its obligations to the State and to society as well as to his medical brethren; and equally must he be unworthy of his profession who can look without concern on the absence of reverence in society and in much of our current literature for all that constitutes the religious element of life, for that which is the groundwork of "social" propriety, and for the constituted order of relative dignity in family life. In this time of "new women" and newer men there are, perhaps, a few medical men who think themselves well employed in giving sanction to such innovations; but they have no countenance from that distinguished member of our profession who is at the present moment the President of the Royal College of Physicians and of the British Medical Association.

FEW themes are more interesting than that which Sir W. BROADBENT selected for his address to the members of the British Medical Association, whilst to have successfully presented a clear and vivid picture of the history of medicine within the time allotted to the delivery of such an address is a matter upon which both orator and audience may be congratulated. The sketch thus given was bold in outline, yet comprehensive and for its purpose sufficient. Nothing that can be deemed essential was omitted, so that as the speaker unfolded the roll it was not difficult to trace with him the stages of thought and practice which have in turn marked the progress of the medical art. The distinction which was made in the opening of the address between the art of healing and its science is one which as knowledge grows will come to be less sharply defined, for it is year by year more apparent that the whole rationale of medicine and of therapeutics is based on scientific foundations. It is doubtless true that so far the art has been in advance of the science; but it is also true, as indeed is apparent from the tenor of this address itself, that scientific medicine, which is still in its infancy, is destined to become conterminous with the practical art. That this is the correct interpretation of the position assumed by Sir W. BROADBENT himself is shown by his significant aphorism that, given certain attributes of acumen and character, "the best physiologist will make the best pathologist, and the best pathologist the best physician." Admitting this, it is surely a wholesome and useful thing to dwell at times upon the past, when physiology and pathology were unknown, and to note with mingled feelings of admiration and humility the position attained by our forerunners in medicine.

The truly remarkable powers of observation and insight possessed by such fathers of medicine as HIPPOCRATES and GALEN, which were illustrated with terseness and force in this address, and the memorable works which have happily been handed down from them, were of such an order that it is not surprising that they guided the practice and theory of medicine for centuries. The dominating influence of Hippocratic doctrine—of which the essence was humeralism—was apparent even to the days of SYDENHAM, whom we claim, and not unjustly, as our pioneer in exact clinical observation. With the name of SYDENHAM Sir W. BROADBENT associated those of BOERHAVE and his pupil VAN SWIETEN, who undoubtedly possessed a wide influence upon medical learning. These three men have left behind them writings which open up a new era in the medical art, for they may be said to have been amongst the first to break through old traditions and to have the courage and independence to seek in bedside observation for an interpretation of the nature of disease. It is singular that from this time for more than a century medical thought should have been swayed in more than one direction by fanciful hypotheses and systems, the effect of which was not to advance medicine, but to hold it in thraldom quite as stringent and narrow as in mediæval times—and this notwithstanding the advancing knowledge of the structure and functions of the body that dates from the epoch of HARVEY. However, these perturbations in doctrine were but the precursors of the more stable and reasonable interpretation of natural phenomena which came to light at the close of the eighteenth century.

In the marvellous advances made in every department of science during the present century medicine has taken a large part. Many a cherished doctrine has been swept aside, and new conceptions of disease and its environment have been framed, so that within living memory the pathological aspect has been wholly changed. In whatever direction we look, whether it be in physiology or in pathology or in therapeutics, we see not merely a revolution of opinion and thought, but almost an entire recasting of our attitude in the investigation of the problems of normal and discovered function. Science has entered into possession of the kingdom where imagination and fancy were once enthroned, but she has many a campaign yet to make and many a battle to win before the victory is wholly gained.

It is needless to particularise here the special lines of the advance of science upon the Hippocratic strongholds—they are patent to all; and if any illustration were needed it would be found in the subjects discussed at congresses such as this which, as we write, is proceeding in the metropolis. For whilst we reverence the past and the master minds that first showed us the paths by which we now travel, we press forward through further conquest of ignorance and superstition towards the goal that every faithful follower of medicine has had in view—the attainment of truth and the dispersion of error for the benefit of suffering humanity.

THE present is not the first occasion upon which Mr. HUTCHINSON has been requisitioned to deliver a vicarious address in Surgery at the annual meeting of the British Medical Association. The address this year had originally been entrusted to Mr. ARTHUR DURHAM, and in feeling and felicitous terms Mr. HUTCHINSON alluded to the early death which had robbed him of a much-loved friend, surgical science of one of its most talented and genial cultivators, and the Association of the pleasure of listening to a surgical oration from a very able speaker. From Mr. DURHAM Mr. HUTCHINSON glanced back to one of Mr. DURHAM'S many distinguished

predecessors, SAMUEL SHARP, who published in 1750 "A Critical Inquiry into the Present State of Surgery," and SHARP'S summary suggested a surgical comparison between the present and the past, between the time when PERCIVAL POTT was in his prime and JOHN HUNTER a young man, and the year of grace A.D. 1895. "SHARP'S thirteen chapters concern hernia, lithotomy, amputations, concussion of the brain, tumours of the gall-bladder, extirpation of the tonsils, hydrocele, and a few others. What a contrast is presented with the almost limitless multiplicity of the subjects which in the present day claim the attention of his successors!" And SHARP'S general experience of the major operations which were then performed, mainly consisting of excision of tumours, amputations, and cutting for stone, may be gathered from his praise of extirpation of the tonsils as an operation "neither dreadful in the doing nor melancholy in the event." Looking forward another half century, when the life of HUNTER, the father of scientific surgery, had passed, Mr. HUTCHINSON paused over M. ROUX, the distinguished surgeon of La Charité, who published the result of his observation during a month spent in London in the diligent investigation of English surgery. ROUX, who had seen LAWRENCE, BRODIE, and BELL operate, considered the London operators skilful but terribly slow, one of the best taking twenty minutes over a circular amputation which any Paris surgeon would have finished in five. Much inferior in England, too, was the attention given to the management of fractures to that in Paris. Incidentally Mr. HUTCHINSON praises ROUX for his sagacity in pointing out the weak points in the management of the Royal College of Surgeons, an institution for the advancement of surgery—viz., the devotion of the best part of the museum space to comparative anatomy. Collections of skulls and skeletons—"a Golgotha anthropology"—and the formation of a vast anatomical reading-room for students make this fault more conspicuous now than ever. Mr. HUTCHINSON sighs very naturally for a museum of clinical surgery. On the other hand, ROUX'S condemnation of the special institutions then appearing for the treatment of eye diseases was itself condemned by the results of the ophthalmic practice in ROUX'S own general hospital, which Mr. HUTCHINSON witnessed many years after the date of ROUX'S visit. "I then saw," he says, "cases of extraction of cataract treated in the open ward and by the hand of the general surgeon, and I saw eye after eye lost by suppuration."

Perhaps the most interesting part of Mr. HUTCHINSON'S interesting and suggestive address is the chapter from his own personal professional history, which commenced when he became junior coadjutor to SPENCER WELLS, the then editor of the *Medical Times and Gazette*, and, in pursuance of a scheme initiated by Mr. WELLS, visited the various London hospitals for the purpose of recording the results of their operative surgery. The formation of Mr. HUTCHINSON'S opinions on various operations and his stores of clinical surgical knowledge had their foundations laid at that time. Every day he was in the operating theatre of one or more hospitals, and in constant confidential communication with the hospital surgeons of the day, and he became cognisant of details which it was not permissible to put into print. Of two operations Mr. HUTCHINSON'S early impressions were extremely unfavourable. At a time when fourteen cases of ovariotomy in succession at different institutions terminated fatally, and Mr. BAKER BROWN was threatened by the coroner with an inquest on the next case dying after the operation, it was no wonder that both Mr. WELLS and Mr. HUTCHINSON regarded the procedure as not much removed from manslaughter, and yet both in their several degrees and separate spheres became pioneers of an operation which is generally regarded as almost the greatest of modern surgical achievements. Similarly, with regard to lithotrity, the hospital practice witnessed by Mr. HUTCHINSON showed a not inconsiderable mortality after the operation, prolonged and often frequently repeated suffering, and the stone after all not entirely eliminated. It is not surprising that Mr. HUTCHINSON, himself a skilful lithotomist, should have exhibited a marked preference during his whole hospital career for lithotomy, and that he has only been converted to lithotrity with regret by witnessing the remarkable success which attends in skilled hands the more recently introduced practice of lithotrity in the shape of the litholapaxy of BIGELOW. Everyone must sympathise with Mr. HUTCHINSON in his disappointment concerning the fate of the clamp which he had improved, and which held its ground for a decennium in the treatment of the ovarian pedicle. At the time of its introduction the clamp so modified was regarded as a great advance and improvement, and the extra-peritoneal method of disposing of the pedicle triumphed over the now almost universally adopted intra-peritoneal plan. Mr. HUTCHINSON, like many other inventors and original workers, hoped that he had placed a permanent stone in the edifice of surgical progress. Yet he has lived to find the clamp discarded and occasionally jeered at as the greatest obstacle to the improvement of the operation and the diminution in its mortality, which existed during the time that it was in vogue. But such denunciations are altogether unjust, and Mr. HUTCHINSON may take comfort from the fact that, as Dr. SKENE KEITH informs us, "Dr. KEITH'S mortality with his first clamp cases was under 15 per cent., showing that it was not this method of treatment which was the cause of the heavy mortality of twenty-five years ago." The scrupulous cleanliness of the present day, the careful toilet of the peritoneum, the more favourable environment of the patient, and improvements in after treatment are the main causes of the better results, and if the clamp is now inferior to the intra-peritoneal method of treating the pedicle, and has been put aside save in exceptional cases, it was at least an improvement once, and it has but met with a fate which has befallen many another once indispensable accessory, such as the carbolic spray producers, now a drug in the surgical market, but a few years ago playing cheerfully in every surgical ward.

Mr. HUTCHINSON is a strong advocate of specialism in surgical practice, not only in eye diseases, but in stone cases, ovarian cases, laryngeal growths, brain surgery, and surgical diseases of the gall-bladder, and his principles were enforced by his later practice at the hospital of sending his ovarian cases away from the London Hospital to the Samaritan Hospital, a course not always approved by his colleagues, and his present practice of placing all his stone cases

under one skilled lithrotrist. In concentration and in nursing homes, with their bright and fair, intelligent and gentle and indefatigable troops of nurses, who never seem to wax even middle aged, he has unbounded confidence. Confidence unbounded he also has in extension of certain operations, such as excision of the tongue for cancer, and henceforth, if the operation be done quite early, no one need die of cancer of the tongue. We trust that it may prove so to be; but can we prevent patients who have lost their tongue in whole or in part from dying of the subsequent glandular affection, however long it may be delayed? If the clamp has given way the doctrine of the local origin of cancer and a precancerous stage will triumph; for "permanent recoveries after removal of the breast for cancer, as after those of part of the tongue for epithelioma, are now common in the practice of all operators." If this assertion is not, as we think, of far too sweeping a character we shall be glad to have it substantiated. In conclusion, Mr. HUTCHINSON referred to surgical education and the five years' curriculum, and he gave another of those autobiographical incidents which give so much charm to his address. Never a warm advocate of the five years' curriculum, and entertaining strong objections to it on the ground of expense and hindrance to many in their career, he has consistently given his vote in committees and the Council chamber in favour of an additional year. Knowing how liberal are Mr. HUTCHINSON'S views, and how strong a reformer he is, we have often wondered how it is that with his great position and opportunities the cause of reform did not make greater progress while he was a member of the Council.

Annotations.

"Ne quid nimis."

PRESENTATION TO SIR JOSEPH LISTER.

ON Tuesday, in the theatre of King's College Hospital, Sir Joseph Lister was presented with a three-quarter length portrait of himself, painted by Mr. Lorimer, A.R.S.A., and an illuminated and illustrated album containing the names of the subscribers. Dr. W. S. Playfair, who presided, said that the testimonial to be presented on that occasion was not to be considered in any way as a recognition of Sir Joseph Lister's great scientific attainments, or even of the proud position which he has achieved for himself as one of the greatest benefactors of humanity who has ever lived. At some distant time, Dr. Playfair averred, those things will be fittingly acknowledged by a national memorial, and he would venture to prophesy that that memorial would not be a national one only, but an international one, for what Sir Joseph Lister had done had conferred benefits upon all the nations of the earth equally. What they did that day was to offer to him from his old friends, colleagues, and pupils a small personal recognition of the affection and esteem which they entertained for him. It was a fitting thing that they had been so fortunate as to secure the coöperation of Sir John Erichsen, who had the privilege of being the teacher of Sir Joseph Lister. The Chairman then called on Sir John Erichsen to make the presentation, who said that in no part of applied science has there been so great progress during the past twenty or thirty years as in that of surgery: so marked and so rapid has been the change that it almost amounts to a revolution. In the art of surgery a new era has come up, old methods have been swept away and distinctly new ones have been introduced, so that it is almost impossible to compare the surgery of the end of the century with that which existed in the later sixties or early seventies. This marked change is due mainly, if not entirely, to the introduction of antiseptic surgery and its appreciation by the profession generally not only in Britain, but throughout the civilised world; indeed, he was ashamed to say that it was more readily accepted and more universally believed in abroad than it was in this country and even in this metropolis. Sir John Erichsen then referred to the brilliant results of the system developed by Sir Joseph Lister, and remarked that he did not think it too much to say that it had raised surgery almost to the rank of an exact science, for the antiseptic method was the result of patient and laborious research begun as early as 1858 in a paper read before the Royal Society on the early stages of inflammation. In 1867 a paper appeared in THE LANCET[1] on the prevention of septic infection in wounds, which was the first of many interesting papers dealing with the gradual evolution of this system. Sir John Erichsen concluded an interesting speech by presenting the testimonial to Sir Joseph Lister, who, in acknowledging the gifts, said that such a gathering of his former colleagues and students brought vividly to his mind the stages of his past professional life. He then sketched his career since he was house surgeon with Erichsen in London and afterwards with Syme in Edinburgh, and described his early experiments in Glasgow, where the antiseptic system had its inception, thanks to the labours of Pasteur, who showed that fermentative changes were caused not by the oxygen of the air, but by micro-organisms. In Edinburgh and London he continued his researches and improved and simplified his methods. In conclusion he feelingly acknowledged his profound gratitude for the memorial. Among the enthusiastic company were Sir George Humphry, Sir George Johnson, Sir Thomas Grainger Stewart, Sir George Stokes, Sir William Priestley, Professor Macewen of Glasgow, Professor Chiene of Edinburgh, Professor William Stirling, Professors Rose and Watson Cheyne of King's College Hospital, Dr. Silk, Dr. Heron, Dr. Wallace, and Dr. Finlayson.

THE METROPOLITAN HOSPITAL SUNDAY FUND.

THE Council of the Hospital Sunday Fund met on Monday last to receive the report of the Distribution Committee and to sanction the awards. The occasion was interesting for several reasons. In the first place the sum received exceeds that of any previous year. About £44,000 have already been received and £2000 more at least are expected. There is still time for benevolent persons to come to the rescue and make the collection £50,000. Meantime it must be admitted that the clergy of all denominations have put forth noble efforts to make the contribution worthy of the followers of Him who came to "heal the sick" and in every way to minister to the poor. It is a healthy sign that the Distribution Committee does not give blindly and unquestioningly to the various institutions. Rather does it tend to become more careful, not to say critical, in respect of the institutions which it benefits. In the present year no less than 25 institutions were questioned with regard to their administration. Of the 184 institutions enumerated in the appendix of the report, 154 have received awards on a full basis, and 25 on a reduced basis. Five have received none. Nothing serves more to confirm the confidence of the public in the Council of the Hospital Sunday Fund than when it signifies its disapproval of gross faults or defects of administration by reducing or altogether withholding grants. Mr. Burdett gave particulars of a visit to the Queen's Jubilee Hospital, showing it to be an ordinary house, overcrowded with patients and entirely ill-adapted

[1] THE LANCET, March 16th, 1867, et seq.

for hospital purposes. The account, with others, amply justified the Council in withholding the award which it had given in some previous years, and out of which an argument in defence of the hospital had been raised. Dr. Glover raised the important question of the Out-patient Department, observing that he considered it the least defensible part of the hospital system, and one which was of doubtful value to the poor, while it brought discredit on the whole administration. He showed that, according to the statistics of the Fund, 1,053,332 patients were treated in this department, but that there was the greatest vagueness as to what these figures meant—whether they were mere visits or actual patients, with no information as to how often the same patient was counted by more than one hospital. The cost of this system, reckoning 3*s.* 4*d.* per head as the average of out-patients, in accordance with the statistics actually before them, was something over £170,000, the saving of which, or part of which, would go far to relieve the finances of the hospitals. Dr. Glover gave notice that he would, at the next meeting of the Council, move for an inquiry into this subject by a subcommittee.

MIRROR WRITING.

IN the *Quarterly Medical Journal* for Yorkshire and the adjoining counties Dr. Crochley Clapham gives an account of a case in which this abnormality was well marked. The patient was a female with right hemiplegia who had taught herself to write with her left hand. At first she wrote wirrorwise—i.e., from right to left; then having gone to school she commenced to write in the usual way, and sometimes forgetting she would write one line mirrorwise and the next in the usual way—the style in which archaic Greek manuscripts were written. Many people practise mirror writing at the present day for the purpose of writing on post-cards, for the writing is illegible, like the books in "Looking-glass House," unless held up to a mirror. It will be found comparatively easy to do if the left hand is used, and still easier if both hands are used simultaneously, and many markedly left-handed persons do it naturally.

THE CONTROL OF INFECTION ON THE FRANCO-BELGIAN FRONTIER

WE learn from the *Moniteur Belge* of July 4th that a very useful system of intercommunication has been arrived at between the French and Belgian Governments as to the notification by each one to the other of the existence of cases of infectious diseases in their respective frontier departments, whether these diseases occur in man or in the lower animals. The French departments concerned are those of the Nord, Aisne, Ardennes, and Meuse, the corresponding Belgian ones being those of West Flanders, Hainaut, Namur, and Luxembourg. The human diseases that have been brought within the terms of this international agreement are Asiatic cholera, typhus fever, typhoid fever, small-pox, scarlet fever, diphtheria, measles, dysentery, contagious ophthalmia, puerperal fever, and "generally all epidemic and communicable diseases." As regards a number of these diseases, it is only intended that information should be forwarded when the occurrence amounts to a definite outbreak or epidemic; and in the case of others, such as dysentery, for example, it is further provided that it is only grave occurrences which are to be notified. But the matter is different with regard to small-pox and cholera, for even a first attack of these two diseases is to be internationally notified. On the part of France this is an entirely new departure; for it was the influence of the French delegates that rendered valueless the system of international notification of cholera proposed at the Dresden Conference, that delegation having induced a majority of the Government delegates to vote in committee with them to the effect that notification was to be limited to the occurrence of a *foyer*, a word that hardly admits of being translated into English, and which no member of the Conference was able satisfactorily to define. The matter has, however, now been somewhat modified as regards a single country, and the terms of the agreement seem to give an indication as to the reasons which made France object to notify anything short of a *foyer* in 1893, for it is explained that any notification given under the new arrangement is not to be followed by the application of the measures of prevention prescribed in the annexe of the Dresden Convention which relates to notification. And, further, the notification is to be deemed on both sides as confidential. We are, however, glad to see even this partial and secret advance in the direction of the unreserved publicity which we maintain in this country. We would not boast of this publicity, for we must confess that it has been invaluable to us in a commercial sense. If foreign countries had suspected us of concealing cholera under the plea that a *foyer* was not fully developed, as has been done elsewhere, we should have been subjected to many restrictions in foreign ports which we are now increasingly able to avoid. The animal diseases which come under a similar reciprocal system between France and Belgium include rinderpest, contagious pleuro-pneumonia, aphthous stomatitis, glanders, farcy, sheep-rot, and scab. As regards these, however, there is no injunction as to secrecy.

FROM PARACELSUS TO PIMLICO.

THE following advertisement appears in a contemporary. We omit names.

"Mr. ——, Pimlico, London, manufactures the very best crystals and the most reliable hollow 'spheres' for mirror vision. The latter are neatly mounted, and both are sent in cases in which they can be carefully kept and protected. As crystal gazing has become so common among those who study the occult sciences, it is well for us to know where we can get the very best balls for our purpose."

It was Thackeray, we think, who remarked upon the wondrous conjunction of the "Hour and the Man"—how when anything is wanted someone is sure to supply it; but that was in romance. There is but little romance in Pimlico. We noticed some of the "very best balls" in the window—some were silvered spheres, such as are hung upon a Christmas tree; some solid spheres, like the common paper-weight; and some globular flasks turned upside down. These last were to be filled with water. Modern occultism is but a poor thing; and how can anyone expect to see visions in a factory-made ball of glass bought out of a shop Compare these with the real magic crystal:—

"The lady unbound her jewelled zone
And drew from her robe the Beryl Stone;
Shaped it was to a shadowy sphere,
World of our world, the sun's compeer,
That bears and buries the toiling year.

"With shuddering light 'twas stirred and strewn,
Like the cloud-nest of the wading moon;
Freaked it was as the bubbles ball,
Rainbow-hued through a misty pall,
Like the middle light of the waterfall.

"Shadows dwelt in its teeming girth
Of the known and unknown things of earth,
The cloud above and the wave around,
The central fire at the sphere's heart bound,
Like doomsday prisoned underground."

With this mirror one might well expect to see anything, but nineteenth-century magic is a weak and feeble following of its ancient ancestors. No doubt we shall soon see quotations for other mystical properties—e.g., "Powder of sympathy, finest selected, per ounce 5*s.* 6*d.* A reduction made to professional prize-fighters and electioneerers. A large selection of rings, keys, Bibles, sieves, birds, cocks always on hand. Arrangements have been made with the authorities of the slaughter-houses at Islington and Deptford for amateur haruspices to practise enteromancy, and strict cleanliness will

be observed." The commercial side of modern occultism will give the death-blow to a silly fad, and crystal gazing, fortune telling, and other dabblings with the unseen will pass into the limbo where are stored many another broken toy and plaything of unbalanced intellects.

TELEPHONES AND THUNDERSTORMS.

WE have more than once commented upon the possible danger to persons using the telephone during a thunderstorm. This has been demonstrated most recently at Westoe, in the county of Durham. The *Newcastle Daily Leader* of July 29th states that a gentleman "was using the County Hotel instrument to speak to Newcastle when he received a shock which caused him intense pain and rendered one of his arms powerless." The necessity that every apparatus of the kind be fitted with some arrangement for carrying a strong current to earth without passing through the instrument is, of course, recognised, but are the protecting devices ordinarily used the most efficient for the purpose? We have doubts.

MEDICINE AND THE BRITISH SCHOOL AT ATHENS.

THOUGH the exigencies of scientific and clinical education have reduced to a minimum those medical men who are also Greek scholars, the fact does not imply that the literature, the art, and the history—in a word, the civilisation—of ancient Hellas have in equal proportion lost interest for the profession. On the contrary, we believe that the light thrown by linguistic and archæological discovery on Greek institutions and *chefs-d'œuvre* finds more intelligent and more diffused appreciation among the votaries of medicine nowadays than in previous generations when Greek as a dead language was more frequently a professional accomplishment. It would even seem as if the time saved from grammatical and critical study of the language were now devoted to a more thorough acquisition of the ideas it embodies and the facts it conveys, as if release from the service of commentary and lexicon were appropriately utilised by a closer, kindlier familiarity with the spirit, the genius, to which these scholastic implements were supposed to be the master-key. Grote on the history, Mure on the literature, Otfried Müller on the art of ancient Greece, supplemented by the skilfully arranged treasure-trove of archæology in museums, put the contemporary layman in a better position to understand Hellenic thought and culture than the mere scholar, however "sound," could have worked out for himself a generation previously. The most civilised of modern nations headed by Germany and France, have long had at Athens, for example, institutions endowed and administered with direct bearing on archæological discovery. America has followed liberally in the same track, and since 1886 Great Britain has also had a similar school. At the great meeting held recently in St. James's Palace, at the invitation and under the presidency of the Prince of Wales, a statement was made as to the condition of that school by no means flattering to the national pride. Of the four Governments, French, German, American, and British, the last is the least liberal in its subsidies of archæological investigation on Hellenic soil, and an earnest appeal had to be made, not only by the Prince of Wales, but by the Duke of Sparta, the Archbishop of Canterbury, Professor Jebb, Sir Frederick Leighton, and Mr. Egerton, our Minister at the Greek Court, for means to bring up the British school to something like equality with its three friendly rivals. In that appeal we fervently join, not only from sympathy with a branch of profoundly interesting research, but from a just sense of what the school referred to has already done, and may still more be expected to do, for the history of medicine. If we dip into any of the later works on this latter subject we shall at once recognise the extent of their obligation to institutions like that now pleading for enhanced resources at Athens. It is safe to say that the interval that divides such histories of the healing art as that of Freind at the beginning of last century and that of Haeser towards the end of this is the interval between the archæology of Queen Anne's and the Victorian reign. Not only in our knowledge of the *armamentarium chirurgicum* of antiquity, but in that of the social life and standing of the practitioners, are we indebted for a clearness and distinctness that the able historians of medicine—the Freinds, the Schultzes, the Sprengels of an earlier day—had no glimmering of. Inscriptions (the science of epigraphy, as it is called) have told us the fees earned by the physician, whether in private life or at the court of imperial Rome—nay, the fortunes amassed, the property bequeathed, by such ἀρχιατροί as Xenophon, who was attached to the body service of the Emperor Claudius. Nor is it only in the knowledge to be gained of the practice and the emoluments, the character and the status, of our illustrious predecessors in the healing art that such institutions as the British School at Athens have laid the profession under obligation. The doctrine, the precept, of the great medical authorities from the Coan school downwards, from Hippocrates to Galen, await much light yet to be thrown upon them by the scholars, British and others, now attached to the institution at Athens. One of the most fertile sources of improved texts of the ancient authors is the papyri to be found in Egypt and the manuscripts lying still unexplored in the Ægean isles as well as the Levant. From these we may one day receive such a revised text of Hippocrates as may throw light on passages that have defied the acumen of Adams and of Littré, of Ermerins and of Fuchs, as we may also obtain such an edition of Galen as will vindicate his mighty name from the apparent contradictions and ineptitudes that disfigure all recensions of his works hitherto known. Services such as these are fully within the scope of the British School at Athens, and if what that school has done for other departments of Hellenic civilisation may be received as earnest of what it yet will do for rational medicine, of which Greece was the motherland, it has fully established a claim on the support of the profession which we should be sorry to think will not one day be liberally met.

DEATH UNDER CHLOROFORM.

THE recent death of a young child under chloroform was the occasion of introducing an important question as to the consent of the parents. The infant son of a labourer suffered from convulsions and difficulty of micturition, and on July 6th, being then twelve days old, it was brought by a nurse to Dr. C. E. Duff, to whom we are indebted for notes of the case. Finding that the prepuce hardly permitted the passage of a probe he recommended circumcision, which was accordingly performed on July 8th at a district nursing home. Chloroform was administered; the child took it well, and was afterwards sent home. On July 15th some hæmorrhage occurred from the suture on the dorsum having cut its way out and allowed the skin of the penis to come forward on the glans and form extensive adhesions. Dr. Duff told the mother to bring the child next day to the district home in order that this might be put right. She accordingly did so, and held the child on her knee during the operation. Chloroform was again administered, and the child took it as well as on the previous occasion. The adhesions were broken down with a probe, the skin was stitched to the corona and the bandaging was finished, when it was observed that the child (who had been coming to nicely) had ceased breathing. The pulse was still beating and the galvanic battery, artificial respiration, &c., were resorted to, but the patient did not

revive. The child, though fully under chloroform, was never deeply under it, the total amount given being about two drachms on a towel in a hot room. The father afterwards informed Dr. Duff that another child of his aged eight months had already died in hospital under chloroform administered for the performance of a minor operation. There was no further confirmation of this statement, but if it be true it would seem to show that undue susceptibility to chloroform may, like other idiosyncrasies, run in families. The fact of this previous death was concealed by the parents, who feared that if it were known the operation would not be performed. An inquest was held, very much against the wishes of the parents, but it was exceptionally necessary, as they asserted that the operation had been performed without their consent. This statement, however, was contradicted by the nurse who attended the mother in her confinement, and whose evidence was to the effect that the mother had on five successive days urged her to have something done for the infant's relief. The mother further declared that she heard nothing about the use of chloroform on the first occasion until the child was brought home, and that she did not know that it was administered at the second operation. The coroner, however, pointed out that she must have seen the administration, and Dr. Duff stated that neither was any complaint made by the mother as to the chloroform nor was he informed before the operation that a member of the same family had already died under chloroform. If this had been brought to his knowledge an anæsthetic would not have been given on the present occasion. At the post-mortem examination the body was found to be emaciated, but no organic lesions were discovered. The verdict of the jury was, "Death under chloroform properly administered in the course of a necessary operation."

AUTUMN MANŒUVRES AND SUNSTROKE.

OUR Rome correspondent writes:—"The soldier on the march is peculiarly a 'candidate' for sunstroke, never more so than during those autumn manœuvres now in progress or in preparation throughout Europe. Roused up in the early morning, often after insufficient rest, he has to fall into line and keep pace, in serried column with his comrades, for miles at a stretch, till within an hour or two of noon. His knapsack is no light one; his tightly fitting uniform is doubly tight around the neck; he marches shoulder to shoulder between his brother-privates, getting and giving out body heat, on shadeless, dusty high-roads, under a progressively scorching sun. First his inner clothing gets saturated with perspiration and clings uncomfortably to the skin, an unbearable heat besets his chest, the respiration becomes shallower, and his tongue cleaves to his palate. If the day is one of those warm, steamy ones, familiar as 'a scirocco-day' in Italy, his state is still more distressing, till presently his resisting power gives out; he drags his limbs after him in stolid apathy for a hundred yards or so, and then collapses, in unconsciousness—the victim to sunstroke. The respiratory and cardiac movements are either very weak or scarcely perceptible; sometimes he lies with closed eyelids, snoring stertorously; but the gravest symptom of all is the characteristic irresponsiveness to all external stimuli, especially when accompanied by convulsively compressed lips which make opening of the mouth impossible. Remedial measures can generally save him, even in this condition; but too often they are impotent to avert the fatal issue which mostly supervenes amid violent and general convulsions. Dr. Vollmann's admirable study, 'Ueber den Hitzschlag,' follows up a detailed description of the phenomena summarised above by a minute physiological analysis of their etiology, into which it is beside my present purpose to enter. More opportune is it to signalise the steps he proposes, precautionary and therapeutic, for the prevention and cure of such cases, occurring as they do with monotonous frequency during the Continental autumn manœuvres. Of the former, those which have made most impression in Italy are: (1) the avoidance of unremitting muscular activity in the heat, which, for the soldier, means more frequent halting-places under the shadow, preferably of trees, which themselves are 'refrigerators'; (2) a looser clothing, particularly round the neck, to admit of freer cutaneous transpiration; (3) a less close marching order; and (4) an unfailing supply of cooling beverages. It is at this last point that his Italian critics are less disposed to follow him. Not that they do not share his opinion that 'die weitverbreitete Scheu vor den Gefahren des "kalten Trunkes" ist unbegründet' (the widespread fear of 'cold drink' is unfounded), for the stomachic and intestinal mischief set up by the sudden ingestion of ice-cold liquids is avoidable by their being imbibed gradually or served out in such quantities as will minimise their bulk. But they hesitate to encourage a practice already all too prevalent among Italians, civilian as well as combatant, in the dog days, that of engorging the circulation with liquid from the excessive consumption of 'bibite' and 'bevande' of all kinds so numerous and so easily procurable in Italy. Serous apoplexy, the proximate cause of sunstroke, is directly promoted by this vascular distension—a fact which explains the frequency with which the lesion overtakes the soldier, not on the march, but in quarters and when in bed at night. On the other hand, Dr. Vollmann's warning against alcohol in every form and however freely diluted finds more acceptance among his southern than among his northern readers, while his clear and precise rules for the treatment of the sun-stricken pending the arrival of the medical officer, command universal approval. 'Pending the arrival of the medical officer,' I say, for Dr. Vollmann is completely and admittedly in the right when he insists 'dass nur der sachkundige Arzt im Stande ist im speciellen Fall abzuwägen welche Massregeln gerade geboten sind und wie deren Anwendung zu erfolgen hat' (only the professionally trained physician is qualified to deliberate, in special cases, what measures are directly indicated and how their application is to proceed). His suggestions and prescriptions come with marked opportuneness now that the Italian manœuvres are in progress."

WILHELM MEYER MEMORIAL.

THE following letter, signed by Dr. Semon, as Chairman of the Committee, by the Presidents of the Royal Colleges of Physicians of London and Surgeons of England, and other well-known members of the profession, has been addressed to the general press. We have pleasure in publishing it, as many of our readers will doubtless also desire to take part in the movement.

"With your permission we wish to enlist the interest of your readers in a movement of a somewhat unusual character. Twenty-seven years ago Dr. Hans Wilhelm Meyer of Copenhagen recognised that an enlargement of the glands situated between the nose and the throat, to which he gave the name of 'adenoid vegetation,' was the most fertile cause of deafness and imperfect nasal respiration in children. This discovery represents one of the most important practical advances of modern medicine. Already many thousands of persons through the timely removal of the enlarged glands have been saved from lifelong deafness or from the lasting consequences of obstructed respiration, and it may be safely said that to no one of our contemporaries are we more deeply indebted for the development of a healthy mind in a healthy body of the rising generation than to Hans Wilhelm Meyer. On the recent death of this eminent man it was felt that his unusual merits deserved unusual recognition, and

the proposal to erect a statue to him at Copenhagen has met with a most sympathetic reception, not only by his fellow countrymen, but also by the medical profession of other countries. H.R.H. the Princess of Wales has most graciously consented to give her patronage to the scheme, and has expressed her sincere gratification at the idea that so eminent a fellow countryman of Her Royal Highness's should be thus honoured. The municipality of Copenhagen have promised to grant a suitable site for the statue, and at this moment in almost every country committees are being formed for the furtherance of this object. Whilst as a rule the medical profession, when they wish to honour their great living or dead, confine their appeals to the ranks of the profession itself, in the present instance it is thought that an opportunity should be given to the numberless parents of children, whose sound development and the preservation of whose hearing has been rendered possible by Dr. Meyer's discovery, to show their gratitude by contributing towards a memorial in appreciation of his great services. We therefore, through the medium of your columns, venture to invite subscriptions, which may be sent to our honorary treasurer, Mr. A. E. Cumberbatch, F.R.C.S., 80, Portland-place, London, W., and will be duly acknowledged in the journals."

Mr. E. Cresswell Baber, M.B., 97, Western-road, Brighton, and Mr. Ch. A. Ballance, F.R.C.S., 106, Harley-street, W., are the honorary secretaries.

MEDICAL MEMBERS OF PARLIAMENT.

THE General Election, which is now practically concluded, has not resulted in the inclusion of any large number of our professional brethren in the legislative ranks. The following are the names of those practitioners who have been successful in their appeal to the constituencies:—D. Ambrose, M.D.Q.U.I. (Louth, S.); R. Ambrose, L.R.C.P. and S. Edin. (Mayo, W.); G. B. Clark, F.R.C.S. Edin. (Caithness-shire); John Dillon, L.R.C.S.I. (Mayo, E.); R. Farquharson, M.D. Edin., F.R.C.P. Lond. (Aberdeenshire, W.); Sir B. W. Foster, M.D. Erlang., F.R.C.P. Lond. (Derbyshire, Ilkeston); J. F. Fox (whose qualifications we are unable to particularise), (King's County, Tullamore); J. E. Kenny, L.R.C.P. and S. Edin. (Dublin, College-green); M. A. MacDonell, M.D., Q.U.I. (Queen's County, Leix); and C. K. Tanner, M.D., Q.U.I. (Cork, Mid.). All of these gentlemen held seats in the previous Parliament. It may also be noted that Mr. Finlay, the eminent Queen's Counsel, who was elected for Inverness Burgh, was at one time a medical practitioner and is an M.D. Edin. Sir W. Cameron Gull (Barnstable division of Devonshire), also a barrister, is the son of the late Sir William Gull, M.D.

THE ASSOCIATION OF BRUSSELS MEDICAL GRADUATES.

THIS association held its annual meeting on Monday last at the Café Royal. The hon. secretary, Dr. Major Greenwood, and the treasurer, Dr. Younger, were able to report the association to be in a very satisfactory state. The membership exceeds 100 names, and includes many eminent and successful practitioners both in the metropolis and in the provinces. The president for the year is Dr. J. W. Warburton of Liverpool. The existence of the association is a vivid illustration of the fact that in this country there is a grievance to medical practitioners in the unreasonable difficulty of obtaining a degree in medicine at home, and that when they go abroad to receive one on honourable terms it cannot be registered. By Section 16 of the Act of 1886 registered practitioners in possession of such degrees prior to the passing of the Act were allowed to add such as an additional title in the Medical Register. But this does not, of course, help those who have obtained degrees since the passing of the Act. This limitation is difficult to understand or to defend, and is one on the removal of which the association is much bent. Among the guests of the meeting were Sir Walter Foster, Dr. Glover, Mr. Langton, and others.

THE BATTLE OF THE CLUBS AT BRUSSELS.

THE Brussels medical practitioners have been able to present a practically similar solid front to the clubs to that shown by their brethren in Cork and other British towns where attempts have been made to prevent well-to-do persons from obtaining professional services on ridiculously inadequate terms. Though more than 400 practitioners in the Belgian capital agreed not to accept the club appointments under existing conditions, six qualified men have at last been found willing to brave the public opinion of the profession for the sake of these miserable appointments. Whether the clubs will be happy now that they have secured six out of the twenty surgeons they require remains to be seen. In order to excuse themselves somewhat these gentlemen have not thought it beneath their dignity to write to the daily papers explaining that their acceptance of the appointments is merely due to "motives of humanity."

MEDICAL CERTIFICATES FOR THE LONDON BOARD SCHOOLS.

THE School Board may well say with the character in the Greek play, "Woe adds woe to woe." At the meeting held on July 23rd Mr. Athelstan Riley asked Mr. Sharpe, the chairman of the School Accommodation and Attendance Committee, "Whether, since the letters received (1) from Captain Blount, R.N., secretary of the Victoria Hospital for Children (stating that, until the resolution passed by the Board on May 30th, 1895, is rescinded, the staff will decline to give certificates to children attending the hospital though they may think it desirable that the child should be excused from attending school), and (2) from the secretary of the Paddington Green Children's Hospital, dated July 10th, 1895, in the same sense, the following letter has been received from the secretary of the North West London Hospital:—

"17th July, 1895.

"GENTLEMEN,—I beg leave to inform you that the medical and surgical staff of this hospital have decided that, should the resolution passed by your board on May 30th, 1895, a copy of which I enclose, be carried into effect, they will in future decline to give any certificate of unfitness to attend school for children under treatment here."

To which Mr. Sharpe again replied, "Yes." We warned the Board as long ago as June 8th what would be the result of their impertinent interference between medical men and their patients, and until the resolution of May 30th be rescinded the Board may expect other hospitals to follow the lead of the three which have already written. The School Board seem to think that because they have the ratepayers' pockets to pick they can set up an "imperium in imperio" and do exactly what they please without being called to account. It is not long ago that a proposal was made that the Board should have their own special magistrates, who, we imagine, could be trusted never to give a decision adverse to that august body. The ordinary London magistrate, we suppose, was not to be trusted any more than the ordinary London medical man. However, in this matter of certificates the Board have gone too far, and they will have to climb down.

WE deeply regret to announce the death of Sir John Tomes, F.R.S., F.R.C.S., and L.D.S., which occurred on July 29th at Caterham. He was perhaps the first of scientific dental surgeons, and his papers on Dental Anatomy are most valuable contributions to a better understanding of the diseases affecting the teeth. We shall publish an extended obituary notice next week.

UNDER date Zurich, July 29th, "A Holiday Contributor" writes: "The Zurich Cremation Society has just held its

annual meeting, and, according to the secretary's report, its members amount to 1087, and the funds at its disposal to 10,200 fr. In the course of 1894 the corpses cremated were in number forty. The price for each cremation is now fixed at 65 fr. for persons deceased in Zurich—being a reduction of 30 fr. on the price charged for the non-resident deceased, that is, for the migratory or tourist population.

THE annual Congress of the British Institute of Public Health will be held at Hull from the 8th to the 13th inst. The hon. president of the Congress is the Most Hon. the Marquis of Ripon, K.G. The president is Mr. Alderman Richardson, Mayor of Hull, and the president of the institute is Professor W. R. Smith. The subjects of papers and discussion include every matter of importance in the way of public health, and in addition an inviting social programme has been arranged.

DR. FRANCIS WARNER has been appointed a honorary member of the Society of Hygiene at Budapest.

METROPOLITAN HOSPITAL SUNDAY FUND.

A COUNCIL MEETING of this Fund was held on Monday, July 29th, at the London Mansion House, to receive the report of the Committee of Distribution for the year 1895 and to approve of the several awards recommended by that committee. Sir Sydney Waterlow occupied the chair, and among those present were Cardinal Vaughan, Archdeacon Sinclair, Sir Savile Crossley, Canon Fleming, Canon M'Cormick, Mr. Henry C. Burdett, the Rev. J. F. Kitto, Captain Cundy, Dr. Glover, Mr. Wakley, Rev. W. H. Barlow, Mr. W. R. Tidd, Mr. F. C. Carr-Gomm, Mr. Alfred Willett, the Rev. A. A. Harland, and others.

In moving the adoption of the report the CHAIRMAN said the work of the committee had been very heavy this year as the accounts of a large number of hospitals had been questioned. Some of the complaints had been cleared up to the committee's satisfaction, some only partially, and in a large number of cases they had been obliged to put the word *nil* against the application. Awards had been recommended to 179 institutions, being an increase of 74 since 1873. This accounted to some extent for the increased work of the committee, but he thought it only just to his colleagues to say how very thoroughly the accounts had been investigated. The total amount for distribution was £44,410, but he hoped that before the accounts were closed the sum would reach the amount the Council were asking for—namely, £50,000. There certainly was never a time when the Fund more needed support because the number of empty beds to be utilised if funds were forthcoming would be of the greatest benefit to the sick poor. As usual 5 per cent. of the total collected would be set apart for the purchase of surgical appliances. This year they had had occasion to question the administration of no less than twenty-five institutions, each of which had been given the opportunity of sending a deputation in conference. Twelve deputations were interviewed, and in the other cases the matter was settled by correspondence. Three institutions not having published their accounts on the uniform system agreed upon were ineligible. One convalescent home, where the charge for maintenance of patients was deemed excessive, has only a small award recommended; and in one case where a dispensary, having its accounts largely involved in mission work, was recommended only so far as the medical work of the mission was concerned, and upon the understanding that in future the financial statements should show the dispensary and the mission work separate. This was not because the committee desired to find fault with mission work, but it was felt that the Fund was not raised for that purpose. He hoped and believed that the discussions with the managers this year would lead to a considerable improvement in the administration of these institutions.

Archdeacon SINCLAIR, who seconded the motion, said he was glad to see signs of growth in the Fund. At St. Paul's a great effort had been made and he was happy to say the donations had been almost doubled. This was due to previous careful work among the congregation and nobody knew this better than Canon Fleming. If all ministers would prepare the ground beforehand and not trust to their sermons alone on Hospital Sunday, much larger collections would result. He thanked THE LANCET and the *Hospital* for the interesting, vivid and effective manner in which the facts were put before ministers. It needed only a very little re-arrangement on the part of the clergy to enable them to prepare their sermons.

Mr. BURDETT, in supporting the motion, congratulated the committee upon the work they had done. He referred to the practice adopted by the Dublin Hospital Sunday Fund, which gave no grants until the institutions concerned had first been inspected by representatives of the Fund. Acting upon this he thought it might be useful if he paid a visit to the Queen's Jubilee Hospital, which had been refused a grant by this Fund, and he was bound to tell the Council that it was not a hospital at all. It was an overcrowded tenement house where sick people are wrongly taken in for medical treatment. So overcrowded was it that it was a marvel to him that it was allowed to exist, seeing that there was a local medical officer and also a very able medical officer for London.

Dr. GLOVER heartily concurred in all that had been said, and rejoiced in the increased sum which had accrued to the Fund. Referring to the statistics prepared by the Council, he drew attention to the enormous sums spent by hospitals upon their out-patients. He gave notice that at the next meeting of the Council he would move for the appointment of a subcommittee to investigate the statistics of the out-patient departments. He contended that if the number of these patients could be greatly reduced there would be a great saving of expenditure which would considerably relieve the hospitals, and greatly add to the public confidence in hospital administration.

Sir SYDNEY WATERLOW quite agreed with the appointment of a subcommittee for this purpose, but pointed out that the Committee of Distribution already had a return showing how many new patients there were attending in each case, and the statistics were based on the number of new patients rather than on the number of attendances.

The motion was unanimously carried.

Canon FLEMING moved "That the cordial thanks of the Council be and are hereby given to Sir Sydney H. Waterlow, Bart. (chairman), and to the other members of the Committee of Distribution for the considerable care and attention bestowed in the preparation of the awards they have recommended, and for the very efficient report of their proceedings." Sir Sydney Waterlow had been connected with the committee for nearly a quarter of a century, and they could not help feeling that he was really the father of the Fund.

Mr. CARR-GOMM seconded the motion, which was heartily carried.

In thanking the Council the CHAIRMAN remarked that they had just received notice of a legacy of £200 from Miss Mary Evans.

Mr. BURDETT, proposed: "That the thanks of the Council be and are hereby given to the editors of newspapers who have pleaded the needs of hospitals and advocated the cause of this Fund, with a view to increasing this years' collection." It has been our custom, he said, to propose this resolution at this meeting every year, but never had it been so well deserved as in the present year, for the editors of the entire press had united to endeavour to raise the Fund to at least £50,000. He pointed out the concession made by Mr. Walter of the *Times*, who, in the cause of charity, admitted for the first time in its history diagrams into the advertisement columns facing the leaders. Although the Fund up to the present had not reached £50,000, the accounts did not close until October, and a very little effort should bring in the required balance. What was wanted was a wider distribution of givers and a larger number of individual gifts. The resolution was a general one, and of course some editors, from the character of their newspapers, had done more than others; still, it was felt that the whole press had helped the Fund, and it was only by their united efforts that the greatest good could be done. But those who were on the Council of the Hospital Sunday Fund could never forget that the first step in the upward growth of the Fund came from the Editor of THE LANCET. It was the late Dr.

Wakley who first stirred up the Council to a special effort and brought them out of the twenties into the forties, and now they were near into the fifties. His brother every year spent a large sum of money, a great deal of time, and gave to the Fund much personal interest; the latter he thought of more importance than money. Mr. Wakley was untiring—and he (Mr. Burdett) thought it only just that he should say so—in trying to get new ideas for the benefit of the Fund.

Cardinal VAUGHAN, who seconded the resolution, said that no one who took interest in the work, and whose duty it was to put the claims of the Fund before their congregations, could be otherwise than deeply indebted to THE LANCET for the attractive way in which the whole question was brought before its readers. THE LANCET rendered an important public service to a great charity in which the whole city was interested, and it was only right and just that its labour should be recognised in an ample and thorough manner. While he thanked the whole of the press, he thought a special meed of praise should be given to those medical papers which had done so much to promote the interests of the Fund.

Sir SYDNEY WATERLOW said he could not put this resolution before thanking all editors, but especially Mr. Wakley who had spared every year, and particularly this year, neither time, trouble, nor expense in doing everything which he thought would benefit the Fund. He desired also to personally thank Mr. Burdett for the special way in which he had caused the movement to be known in the West-end. The resolution was then carried *nemine contradicente*.

The Rev. J. F. KITTO proposed "That the cordial thanks of the Council are now given to the Right Honourable Sir Joseph Renals, Bart., Lord Mayor, who, as President and Treasurer, has devoted his valuable time to promote the growth of the Fund." This motion being carried, the usual courtesies to the chairman terminated the proceedings.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on July 29th, the President, Mr. CHRISTOPHER HEATH, being in the chair.

The Secretary laid before the Council the certificate of the auditors, Messrs. Cooper Bros. and Co., certifying to the accuracy of the accounts of the College for the past year 1894-95, and a balance-sheet dated June 24th, 1895. The statement of receipts and expenditure and the balance-sheet were approved and adopted, and were ordered to be published in the College Calendar.

A report, dated July 15th, from the Committee of Management was approved and adopted. It was as follows:—

1. That the following institution be added to the list of places of instruction in chemistry, physics, and practical chemistry—viz., the Grammar School, Bedford. 2. That the following institution, already recognised as a place of study in chemistry, physics, and practical chemistry be also recognised for biology—viz., Dulwich College. 3. That on the application of the Dean of St. Mary's Hospital Medical School, the course of clinical demonstrations in lunacy given by Dr. T. B. Hyslop at Bethlem Hospital be recognised so long as he shall hold the lectureship in psychological medicine at St. Mary's Hospital Medical School. 4. That on the application of the Dean of University College, Bristol, the Fever Hospitals of the Bristol Public Health Department be recognised as fulfilling the requirements of the regulations for attendance on fever cases. 5. That the Great Northern Central Hospital be recognised as a place of study during the fifth year of the curriculum.

A second report, dated July 25th, was read from the committee on the proposed arrangements for the Third and Fourth Examinations. The report was approved and adopted. It was as follows:—

In pursuance of the resolution adopted by the Council on June 13th, 1895, the committee have again taken into consideration the following recommendations contained in their report of June 7th, 1895—viz.: 1. That a separate examination in ophthalmic surgery be not instituted. 2. That Paragraph 11, Subsection II. of Section I. of the Regulations for the Five Years Curriculum be altered by the addition of the words herein printed in italics—viz.: 11. Of having attended clinical instruction in ophthalmic surgery *and discharged the duties of dresser* at an ophthalmic hospital recognised for the purpose by the Examining Board in England, or in the special ophthalmic department of a recognised general hospital during not less than three months (candidates may fulfil this requirement any time after passing the second examination).

The committee have also, in pursuance of the instructions of the Council, consulted the medical schools upon the question of examination in and teaching of ophthalmic surgery. The committee, having again considered the matters referred to them, do not think it desirable that any addition should at the present time be made to the regulations respecting the examination and teaching of ophthalmic surgery. The committee therefore again recommend to the Council that a separate examination in ophthalmic surgery be not instituted, and do now recommend that no alteration should be made in Paragraph 11, Subsection II. of Section I. of the Regulations for the Five Years Curriculum but that it should remain as printed above without the addition of the words in italics.

The committee, in pursuance of the permission accorded to them by the Council, have obtained a report from the Court of Examiners on the details of the arrangements proposed by the Committee of Management for the Third and Fourth Examinations. The committee, however, are unable to report upon these details, as they think it desirable that the whole question of the examinations under the five years curriculum should be reconsidered. The committee therefore recommend to the Council that they should be authorised to consider and report upon the general scheme of examinations, as well as upon the details, and that they should further be authorised to consult the medical schools, if they should think it desirable.

It was moved and adopted that the Royal College of Physicians of London be informed that the Council had not adopted the recommendation of the Committee of Management contained in their report of March 18th, 1895, respecting the institution of a separate examination in ophthalmic medicine and surgery; and a copy of the report presented at this meeting was directed to be sent to the Royal College of Physicians.

The President stated that the Deputation Committee had received a deputation of Members on July 26th, and would submit a report thereon to the Council at a future meeting.

It was resolved that the annual meeting of Fellows and Members should be held at the College on Thursday, Nov. 7th next, at 3 o'clock P.M.

A letter was read, dated July 22nd, from Mr. H. Percy Dunn, reporting the following resolution, adopted by the Committee of the Association of Fellows—viz.:—"That the attention of the President and Council of the Royal College of Surgeons, England, be drawn to the fact that the half-yearly meeting of the Fellows on the 4th instant was closed without any discussion being possible in respect to the business on the agenda, and that, in the opinion of the Committee of the Association of Fellows, such a mode of conducting these meetings would be destructive of the privileges conceded by the Council to the Fellows, and would render their meetings nugatory."

It was resolved that Mr. Percy Dunn should be informed in reply "That the Council wished to point out that the meeting of Fellows was held and conducted in strict accordance with the regulations appertaining to the meeting; that as there were no notices of motion on the agenda paper no discussion could properly take place, the regulations of the meeting requiring previous notice of twenty-one days."

The Secretary reported the presentation to the College by Mr. Jabez Hogg, M.R.C.S., of sixteen daguerreotypes of physicians, surgeons, and others, mostly taken by himself in "the early forties"; nine volumes of scientific pamphlets, and a portrait in oil of a surgeon (name unknown), date 1677. The best thanks of the Council were accorded to Mr. Jabez Hogg for his present.

A letter, dated July 26th, was read from Dr. Liveing reporting the proceedings of the Royal College of Physicians of London in relation to matters common to the two Colleges, and stating that the petition from the London School of Medicine for Women had not been referred to a committee for report, but that its consideration had been postponed to a special meeting of the College to be held towards the close of October or in the early part of November next.

It was moved and carried that the resolution of the Council at the last meeting, referring the petition of the London School of Medicine for Women to the Committee of Management, be rescinded. It was resolved that the further consideration of the petition of the London School of Medicine for Women be postponed to the ordinary meeting of the Council in November.

Mr. Smith moved, "That the question of the admission of women to the examinations for the Diploma of Member be submitted to the meeting of Fellows and Members on the 7th November." The motion was carried.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 6356 births and 4572 deaths were registered during the week ending July 27th. The annual rate of mortality in these towns,

which had risen in the six preceding weeks from 15·4 to 21·9 per 1000, further increased last week to 22·5. In London the rate was equal to 23·0 per 1000, while it averaged 22·1 in the thirty-two provincial towns. The lowest rates in these towns were 11·8 in Brighton, 13·6 in Huddersfield, 13·7 in Bristol, 14·5 in Croydon, and 15·2 in Gateshead; the highest rates were 28·6 in Birkenhead, 29·5 in Salford, 30·0 in Liverpool, 30·1 in West Ham, and 31·5 in Preston. The 4572 deaths included 1255 which were referred to the principal zymotic diseases, against 877 and 1137 in the two preceding weeks; of these, 903 resulted from diarrhœa, 156 from measles, 77 from diphtheria, 53 from whooping-cough, 39 from scarlet fever, 22 from "fever" (principally enteric), and 3 from small-pox. No fatal case of any of these diseases occurred last week in Halifax; in the other towns they caused the lowest death-rates in Brighton, Bristol, Huddersfield, and Newcastle-upon-Tyne, and the highest rates in West Ham, Leicester, Liverpool, Preston, and Sheffield. The greatest mortality from measles occurred in Plymouth, West Ham, Blackburn, Manchester, and Liverpool; from scarlet fever in Salford; from whooping-cough in Cardiff; from "fever" in Burnley; and from diarrhœa in Bradford, Norwich, Leicester, Sheffield, and Preston. The 77 deaths from diphtheria included 48 in London, 4 in West Ham, and 4 in Wolverhampton. Two fatal cases of small-pox were registered in Oldham and 1 in London, but not one in any other of the thirty-three large towns. There were 193 cases of small-pox under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, July 27th, against numbers increasing from 19 to 89 at the end of the six preceding weeks; 114 new cases were admitted during the week, against 17, 36, and 23 in the three preceding weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2347, against 2044, 2241, and 2267 on the three preceding Saturdays; 249 new cases were admitted during the week, against 311, 342, and 220 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 187 and 193 in the two preceding weeks, declined again last week to 185, but were 8 above the corrected average. The causes of 50, or 1·1 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, Bradford, Newcastle-upon-Tyne, and in thirteen other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Salford, and Sheffield.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 20·3 and 18·2 per 1000 in the two preceding weeks, was 18·3 during the week ending July 27th, and was 4·2 per 1000 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 10·3 in Perth and 15·2 in Aberdeen, to 23·2 in Paisley and 25·1 in Greenock. The 527 deaths in these towns included 64 which were referred to diarrhœa, 11 to measles, 7 to whooping-cough, 4 to diphtheria, 3 to scarlet fever, 3 to "fever," and not one to small-pox. In all, 92 deaths resulted from these principal zymotic diseases, against 121 and 91 in the two preceding weeks. These 91 deaths were equal to an annual rate of 3·2 per 1000, which was 3·0 below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of diarrhœa, which had been 72 and 61 in the two preceding weeks, rose again to 64 last week, of which 34 occurred in Glasgow, 8 in Greenock, 6 in Dundee, and 6 in Paisley. The deaths referred to measles, which had declined from 18 to 8 in the three preceding weeks, increased to 11 last week, and included 3 in Glasgow and 3 in Edinburgh. The 7 fatal cases of whooping-cough showed a further decline from the numbers recorded in recent weeks, and included 4 in Glasgow. Of the 4 deaths from diphtheria 2 occurred in Edinburgh, 1 in Leith, and 1 in Glasgow. The fatal cases of scarlet-fever, which had been 6 in each of the two preceding weeks, declined to 3 last week, of which 2 occurred in Glasgow and 1 in Leith. The deaths referred to diseases of the respiratory organs in these towns, which had been 80 and 57 in the two preceding weeks, were 59 last week, and exceeded by 10 the number in the corresponding period of last year. The cause of 45, or more than 8 per cent., of the deaths in the eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 20·0 and 25·1 per 1000 in the two preceding weeks, declined again to 23·9 during the week ending July 27th. During the past four weeks of the current quarter the death-rate in the city has averaged 23·5 per 1000, the rate during the same period being 21·4 in London and 16·4 in Edinburgh. The 160 deaths registered in Dublin during the week under notice showed a decline of 8 from the number in the preceding week, and included 28 which were referred to the principal zymotic diseases, against numbers increasing from 9 to 21 in the four preceding weeks; of these, 24 resulted from diarrhœa, 3 from whooping-cough, 1 from "fever," and not one either from small-pox, measles, scarlet fever, or diphtheria. These 28 deaths were equal to an annual rate of 4·2 per 1000, the zymotic death-rate during the same period being 6·9 in London and 2·3 in Edinburgh. The fatal cases of diarrhœa, which had steadily increased from 3 to 16 in the five preceding weeks, further rose to 24 last week. The 3 deaths referred to whooping-cough corresponded with the number in the preceding week. The 160 deaths in Dublin last week included 51 of infants under one year of age, and 33 of persons aged upwards of sixty years; the deaths of infants showed a further increase upon those recorded in recent weeks, while those of elderly persons showed a slight decline. Seven inquest cases and 7 deaths from violence were registered; and 43, or more than a fourth, of the deaths occurred in public institutions. The causes of 12, or more than 7 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

INDIA AND THE INDIAN MEDICAL SERVICES.

SURGEON-MAJOR C. MONKS is appointed to act as Civil Surgeon, Karachi, during the absence of Brigade-Surgeon-Lieutenant-Colonel G. Bainbridge, M.D., on privilege leave. Surgeon-Lieutenant-Colonel S. B. Haliday, in medical charge, 13th Bombay Infantry, at Aden, having been recommended for twelve months' leave to England on medical certificate, has proceeded home in the *Dilwara*.

ARMY MEDICAL SCHOOL AT NETLEY.

The prizes to the successful candidates at the recent examinations for the British and Indian Medical Services were distributed at the Army Medical School, Netley, on Wednesday last. Sir Joseph Fayrer, K.C.S.I., presided.

It has been decided that medical officers, whether they belong to the military medical service or are civil practitioners, who have served eighteen years on the staff of volunteer corps and have rendered substantial service to their corps, may be considered eligible for the Volunteer Officers Decoration.

The following rules, says the *Pioneer Mail*, have been laid down for the grant of pay to a Brigade-Surgeon-Lieutenant-Colonel of the Indian Medical Service during the period he is attached to the office of a Principal Medical Officer for the purpose of acquiring a knowledge of military medical administration:—(1) In cases where it is practicable to attach the officer to the office of a Principal Medical Officer without his relinquishing his civil duties, his full civil pay will be continued to him; (2) in cases where the officer has been obliged to relinquish his civil duties he will be allowed the grade pay of his rank, together with half the difference between that grade pay and the substantive pay of his civil appointment, the whole to be a charge against the military estimates.

THE RETIREMENT OF THE DUKE OF CAMBRIDGE.

It is understood that H.R.H. the Duke of Cambridge, who has left London for Homburg, will on his return vacate his present appointment as military head of the army. There has naturally been a good deal of interest and speculation excited as to the Duke's successor. It seems to be generally agreed that in point of military rank, service, and reputation Lord Wolseley has the strongest claims for the appointment. The Duke of Connaught is undoubtedly very popular and has the reputation of being an excellent officer, in addition to the fact that the present Government would probably desire to see a Royal Commander-in-chief,

and it is therefore confidently predicted in some quarters that he is to be the next occupant of that post. But it cannot be contended that in experience, tried ability, and services in the field he has the reputation of Lord Wolseley, Lord Roberts, or Sir Redvers Buller, nor, as it seems to us, would it be in the Duke of Connaught's interest, considering his present age, to be promoted to a post which he would only occupy for a fixed period before retirement. It may, we think, be regarded as certain that nothing has as yet been definitely decided on. The question is one of national and military interest and does not specially concern the medical profession, but the appointment of a Commander-in-chief is likely to affect in many ways the Army Medical Staff in common with other branches of the service.

THE FRENCH IN MADAGASCAR.

It appears that the French troops, especially those in connexion with the river service, have suffered much from dysentery and rheumatic ailments, in addition to climatic fever. There are a large number of young soldiers in the French force, and these are said to have been affected disproportionately as compared with the older and more matured troops. A number of sick soldiers have been sent to the hospital establishments at Réunion. It is understood that those invalided to France were, speaking generally, much improved in health on their arrival at Marseilles; but several soldiers died on the voyage. Some complaints have been made of the arrangements for the disembarkation of troops and stores on their arrival in Madagascar from France, and a good deal of difficulty has been experienced in regard to the commissariat and food supplies for the force. The French hospital service has had its hands full of work. It must be remembered that expeditions of this nature are necessarily attended with great difficulties, and that a good deal of sickness may be confidently expected to ensue, more especially at the beginning of the campaign; at least that has been the experience of this country. The Ashanti expedition was probably one of the best-thought-out and arranged expeditions that England has undertaken.

THE CHITRAL FORCE.

Nothing has yet been definitely settled as to the policy to be pursued in regard to the late Chitral expedition—whether we are to retain our present position in that country or not. It is understood that the more prominent military authorities in England are on the whole decidedly opposed to our remaining, and there are grave political reasons against our doing so, except for very strong strategical considerations, on account of the increased expenditure and the depressed state of Indian finances at the present time. Be this as it may, however, the climate of some of the hill stations held by the Relief Force is said to be excellent during the summer months, and, notwithstanding the sickness that prevails at some stations, the health of the force as a whole is good. The *Pioneer Mail* of July 10th states that the percentage of sick, including those in the base hospitals in the Punjab, is under 7 per cent.

FILTERS FOR BRITISH TROOPS IN INDIA.

We are very glad to learn that a reference has been made to the principal medical officer of Her Majesty's Forces in India as to the desirability of adopting the Pasteur filter for British troops. This should, in our opinion, certainly be done, especially in stations where enteric fever has prevailed. The filter in ordinary use in barrack rooms in India is rather a source of danger than a safeguard against water-borne disease. We have, as our readers are aware, for a long time advocated the introduction of another form of filter for barrack and hospital use in India, and the experience obtained of late years in the French Army shows conclusively what can be done in this direction in improving the health of the troops.

SURGEON-COLONEL CUFFE, C.B.

The death of this officer, which was announced in some of the English and Irish papers, is, we are glad to say, incorrect. Surgeon-Colonel Cuffe, who is Principal Medical Officer of the Allahabad District, according to an Anglo-Indian contemporary of the 10th ult., was at Pachmarhi and in excellent health.

The Leeds Company of the Volunteer Medical Staff Corps will arrive at Netley to-day, Saturday, August 3rd, for their annual training at the Royal Victoria Hospital.

Eleven invalids arrived at Netley from Mauritius on July 31st.

Correspondence.

"Audi alteram partem."

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND AND THE PORTRAIT OF SIR JOSEPH LISTER.

To the Editors of THE LANCET.

SIRS,—I am sorry that Mr. C. B. Keetley, in a letter to THE LANCET of July 27th, objects to the plan we have adopted for obtaining a good portrait of Sir Joseph Lister, to be presented to the Royal College of Surgeons of England. A mandate from so large a body as the Fellows and Members of the College, to whom we have appealed, could only have been obtained after considerable delay, expense, and publicity. It seemed, therefore, best to form a committee in which each of the metropolitan medical schools should be represented, and from this committee we purposely excluded members of the Council, as they would be ultimately the recipients and custodians of the portrait. We should also have asked representatives from the provincial schools of medicine had we not thought that such a step would have caused delay. The choice of an artist was made by the committee after consulting the wishes of Sir Joseph Lister. I may also add that our project has the approval and support of the President and most of the members of the Council of the Royal College of Surgeons. I deeply regret that from various reasons we failed to place upon our first list of subscribers the names of many eminent surgeons, who have since welcomed and supported our project with the utmost cordiality; and I trust that any imperfections which may be found in the inception of the work will not prevent the Members and Fellows of our College from doing their best to show by this memorial their appreciation of the unrivalled claims of Sir Joseph Lister to the gratitude of British surgeons.—I am, Sirs, yours obediently,

N. DAVIES-COLLEY,
Treasurer of the Lister (College of Surgeons) Portrait Fund.

July 31st, 1895.

To the Editors of THE LANCET.

SIRS,—Although an ardent and enthusiastic admirer of Sir Joseph Lister, might I be permitted to express the opinion that the time has not yet arrived when anything like a general appeal should be made to commemorate the enormous benefits which his genius has conferred upon mankind in general and the surgical art in particular. If the College wish to add to their collection of portraits they should surely do so out of their corporate funds, or the individual members of the Council should provide the necessary money. An additional objection to the appeal which has just been issued is, that it follows so closely upon the footsteps of one made to Sir Joseph Lister's former colleagues and pupils that practically the latter cannot be expected to subscribe, so that the resulting list of contributors will not by any manner of means represent the full measure of the veneration and esteem with which Sir Joseph Lister is regarded by the profession at large.

I am, Sirs, yours obediently,
"LISTERITE."

London, July 27th, 1895.

"THE CARDIO-VASCULAR CHANGES OF RENAL DISEASE."

To the Editors of THE LANCET.

SIRS,—Sir George Johnson's letter in your last issue chiefly traverses old ground, upon which I need not follow him, as I have so recently ventured upon it. The main purpose of my lecture was to put forward the observations on the large arteries which I had supposed to possess more of novelty than Sir George Johnson allows to them. They may be worth little or nothing, but even a small fact may be of use. I am far from supposing that we have got to the end of a difficult and complicated question, the complete solution of which must be the work of the future. In the meanwhile we want more facts, especially with reference to the state of the capillaries as seen with the microscope. It will be my endeavour to do something in this direction, should I not be fortunately anticipated by some younger and more active observer.

Before laying down my pen let me congratulate Sir George Johnson on his recognition in process of time of the fibrous thickening as well as the muscular. He may say with an earlier philosopher, "Whatever I said last Wednesday I do not say so now." This is wholly to his credit, but let it also be placed to the credit of the departed pathologists to whom we owe our knowledge of the arterial fibrosis, which, though not the whole matter, is a part of it which is now no longer a matter of dispute.—I am, Sirs, yours truly,

W. HOWSHIP DICKINSON.

"THE ASSOCIATION OF WORKERS IN ASYLUMS FOR THE INSANE."

To the Editors of THE LANCET

SIRS,—I notice in THE LANCET of July 27th, under the above heading, that a meeting has been held at which Sir B. W. Richardson delivered an address. He is reported to have said that "education and training raised the status and increased the usefulness of nurses, and this experience will no doubt be repeated when the same conditions are applied to attendants on the insane." I cannot allow such a statement as this to pass unchallenged. For many years past the attendants and nurses on the insane have been carefully educated and trained. After a period of two years, during which the attendants and nurses have to attend a dozen lectures and the same number of clinical demonstrations in the wards of a hospital for the insane, they are examined, and, if successful, are granted a certificate of proficiency in nursing the insane. The superintendent of the hospital trains his attendants and nurses, but he has nothing to do with their examination. The written portion is conducted by examiners appointed by the Medico-Psychological Association of Great Britain and Ireland, and the clinical and *viva voce* part by an examiner who is generally the superintendent of a neighbouring asylum. The severity of the examination is shown by the fact that at every examination a number of candidates are plucked. The result of the education, training, and examination has been to increase the usefulness of the nurses and attendants, who now take a more intelligent interest in the cases under their care; while, as regards their status, it is quite on a par with hospital trained nurses. Indeed, some of the latter are anxious to obtain the certificate, and a scheme is on foot for admitting them to the examination after a definite period of training. Altogether more than 1000 nurses and attendants possess the certificate which is granted by the Medico-Psychological Association of Great Britain and Ireland.

I am, Sirs, yours faithfully,

FLETCHER BEACH,
Honorary General Secretary, Medico-Psychological Association of Great Britain and Ireland.

Welbeck-street, W., July 30th, 1895.

THE HOSPITAL FOR DISEASES OF THE THROAT, GOLDEN-SQUARE.

To the Editors of THE LANCET.

SIRS,—We shall be obliged if you will kindly allow us to state in your columns that we have now entirely severed our connexion with the Throat Hospital in Golden-square.

We are, Sirs, yours faithfully,

SUTHERLAND,
Lately President of the Throat Hospital, Golden-square, London.

R. COURTENAY WELCH,
Lately a member, and for nearly twelve years chairman of the Committee of Management of the Throat Hospital.

GREVILLE MACDONALD,
Lately Dean of the Medical School, and for eight years physician to the Throat Hospital.

Stafford House, St. James's, July 31st, 1895.

THE PHYSIOLOGY OF DEATH BY ELECTRIC SHOCK.

To the Editors of THE LANCET.

SIRS,—An annotation in THE LANCET of July 27th attributes death in electric shock to "stoppage of the heart." It is useful to inquire how and why this stoppage occurs. Dr. A. M. Bleile (Ohio) has lately investigated the physiological events which in his opinion lead up to it.[1] Experimenting upon dogs with strong currents of stated strength he finds, on examining the heart immediately after death, that "the left side is completely relaxed and the right side intensely gorged with blood, as are also the large veins in the immediate vicinity of the heart. ..... Incisions into the animal are not followed by bleeding, and the arteries are contracted down to a very small calibre." It was suggested, therefore, "that the current acted upon the arteries through the nervous centre which controls their diameter." To test this view dilatation of the arteries and fall of blood-pressure was effected by bringing the animal under the influence of nitrite of amyl. Under these circumstances a current of 0·24 ampères at 52 volts for three seconds (ordinarily a fatal dose) did not produce death. The conclusion arrived at is "that death in electric shock is really due to the fact that the current produces a contraction of the arteries through an influence on the nervous system, and that this constriction of the arteries throws in such a mechanical impediment to the flow of the blood as the heart is unable to overcome, and that where drugs are given to counteract this effect much larger doses of electricity than the ordinary can be borne." The experimental data on which this opinion is based are given in such detail that the experiments can be repeated and results verified. The paper is a useful contribution to the physiology of death by electric shock. It may be incidentally mentioned, however, that the absolute amount of mechanical energy used, as measured in "joules," does not necessarily bear any direct relationship to the physiological effects of an electric current. In other words, a weak current for a long time is a very different thing from a strong current for a short time, although in each instance the "joules" may be the same.

I am, Sirs, yours faithfully,

Brighton, July 30th 1895. W. S. HEDLEY.

THERAPEUTICS OF THE GOLD SALTS.

To the Editors of THE LANCET.

SIRS,—Some few weeks ago, after applying to various wholesale chemists without any result, I enquired through your columns if solutions of the tribromide of gold combined with oxybromides of arsenic, &c., were manufactured, or could be manufactured, in England, being anxious to give them a therapeutical trial. I am glad to say that these preparations now have, at my suggestion, been placed on the English market by Messrs. Arthur and Co. of Berners-street, who have taken considerable trouble over the manufacture of these not easily made solutions. I believe, with an eminent American authority, that these solutions present the tri- and the oxy-bromides in the best possible form of administration, and they have in my hands already proved serviceable in cases of neurasthenia, nervous fibrillary twitchings, &c. I hope English practitioners will give these solutions a practical trial in the various neuroses, &c.

I am, Sirs, yours truly,

Hastings. J. STENSON HOOKER.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

The Assizes: the Judge's Charge.—Important Medico-legal Case.

MR. JUSTICE CAVE commenced the business of the Assizes on July 26th by charging the grand jury. With reference to the case in which Owen Green and Mary Ann Roxburgh were charged with manslaughter his lordship said: "According to the evidence the female prisoner struck the deceased man with the neck of a bottle after it had been broken upon the eye, destroying the sight of the eye and cutting the eyebrow. Under the circumstances it was deemed necessary by the medical men to perform an operation upon the man, sewing up the eyelid, and so on. For that purpose it was thought necessary to give him an anæsthetic. He seemed to be a proper subject for the administration of an

[1] A paper read before the American Institute of Electrical Engineers, Niagara Falls, N.Y., June 27th.

anæsthetic, but during the course of the operation he appeared to be in a fainting condition and ultimately died. He died under the anæsthetic in a way which the medical men were unable to account for. No doubt in a case where a person knocked another down and rendered an operation necessary, and during that operation the person died—not from the direct result of the blow itself, but from other causes which were hard to explain—he had no doubt in such a case it might be contended with much probability that the person who struck the blow was liable for the consequence. But it was hardly desirable in a case like that, unless there was grave necessity, to let the case rest upon a principle of that kind. If the grand jury thought there was a *prima facie* case against the woman he would have a bill sent up charging her with wounding with intent to do grievous bodily harm, which would leave the cause of death an open question."

High Rate of Infant Mortality.

At the last meeting of the Health Committee Dr. Hope reported an increase in the mortality, and stated that it was almost entirely owing to deaths of very young children, no less than 60 per cent. of the total being under five years of age. The earlier the period of life the higher the mortality had been. This lamentable loss of infant life was largely, if not entirely, owing to injudicious feeding. So far as inquiries could ascertain the fact, there was no structural sanitary defect in any of the houses where the deaths had taken place. In a considerable number there was evidence of domestic neglect and dirt, and in a great bulk there was evidence of improper feeding. Those matters were exceedingly difficult for a sanitary authority to deal with, inasmuch as they depended upon the amount of care and intelligence exercised by the mothers. In accordance with a suggestion from the committee he had caused a memorandum to be very freely distributed showing what could be done to prevent this mortality among children, and it was hoped some attention would be given to it. Of course, there were cases in which the evidence of neglect and improper feeding were entirely absent. This high rate of infant mortality was not peculiar to Liverpool by any means; every great city had its proportion of it. In other respects the health of the city was gratifying. Other forms of zymotic disease were markedly below the average. The one solitary case of small-pox in the city was imported from America. The number of patients in the hospital was low.

July 30th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Proposed New City Hospital for Edinburgh.

AS was mentioned in THE LANCET a site had been provisionally selected by the Lord Provost and others at Craiglockhart as suitable for the proposed new city hospital. The site was inspected by the medical officer of health, and Dr. Claud Muirhead, the consulting physician to the City Hospital, and adversely reported upon. This report came up before the last meeting of the town council and led to some discussion; but the Lord Provost, with great wisdom, decided to abandon all thought of fixing upon the site thought of. He avowedly did this because of the medical report, although he was evidently disposed to think the medical experts were too decided in their disapproval, yet, as he said, it would not do to go forward in the face of such an adverse opinion.

Water of Leith Sewerage Commission.

The annual inspection of the works for the purification of the water of Leith was made last week. The various works in connexion with it were inspected, and much satisfaction was expressed with the result. The essential feature has been the construction of a great drain by means of which substances which were formerly discharged into the stream are now carried away. There are of course reservoirs and settling tanks in connexion with the scheme, the whole having cost somewhere about a quarter of a million of money. So thoroughly has the work been done that the stream promises to be a good trouting stream in the not far distant future.

The Professional Examinations in Edinburgh.

It may be of interest to note that the success of the lady students at the First Professional Examination has created considerable interest. The lady who appeared for the second professional examination has also passed.

July 30th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Battle of the Clubs at Cork.

THE death of Dr. O'Sullivan, induced as it was by overwork, has caused consternation amongst the Cork clubs. Last week one of the lodges of Oddfellows held a meeting to consider the situation, and about thirty members attended. A proposition was made that the terms of the Cork profession be accepted. The paid secretary of the lodge strenuously opposed the proposal. A poll was taken, and it was found that there were four for and seven against the resolution. The remainder, forming the great bulk of the meeting, were so unsettled in their opinions that they actually declined to vote. This looks very like the beginning of the end. There is no doubt that every day the legitimate members of the clubs are coming to realise that they are standing in their own light by supporting the unreasonable demands of the merchants, the bankers, and the builders to be treated on the same terms as the clerks, the artisans, and the labourers. Many of the well-to-do club members have not hesitated during the present contest to call in the assistance of the local practitioners and pay them the ordinary private fees, but unfortunately the poorer members are not in a position to do so, and several of them naturally wish for a larger field to select from when appointing a club officer. Some of the more ardent spirits will no doubt endeavour to have the appointments held by Dr. O'Sullivan distributed amongst the three remaining imported medical men; but it remains to be seen, if such should occur, whether the latter will be physically capable of discharging the increased duties. Indeed, it is freely rumoured in professional circles—and I have reason to believe it is quite true—that club practice in Cork is at present so harassing and exacting that the health of one of the three club officers is already so seriously damaged that the unfortunate young man has been obliged to decide on leaving Cork within the next month. A deputation from the Cork profession has proceeded to London for the purpose of representing to the meeting of the British Medical Association the exact state of affairs in Cork, and to impress on the profession at large the importance of a combined effort to strenuously oppose the ever-growing abuses connected with club practice. I have already said, and I repeat it, that to secure success the Cork men need only persist in working as energetically as they have done, and continue to preserve the splendid discipline they have already exhibited

Sir W. Thornley Stoker.

A committee of medical men has been arranged for the purpose of entertaining Sir W. Thornley Stoker, President of the Royal College of Surgeons, at dinner, in congratulation upon his receiving the honour of knighthood; but as the present period of the year is not suitable for such functions it has been agreed to defer any practical outcome until the end of October.

Meath Hospital and County Dublin Infirmary.

Mr. R. Glasgow Patteson, M.D., F.R.C.S., has been appointed surgeon to the above hospital, in the room of the late Sir George H. Porter, Bart.

The Epileptic Wards of the Belfast Union Infirmary.

In THE LANCET of July 27th I gave an outline of the suggestions made by the inspector of the Local Government Board arising out of an inquiry held in Belfast as to the death of a man in the lunatic department of the union infirmary. A committee of the Belfast Board of Guardians, appointed to consider the inspector's report, advise that copies of the paragraphs in it relating to the diagnosis of disease, and to the desirability of consulting the visiting medical officers before sending a patient to the epileptic wards of the lunatic department, be sent to the resident medical officers, and that they be informed that the Board is of opinion that such consultation is necessary. They also recommend that some epileptics be separated from the other inmates of the lunatic department, and that separate recreation grounds be provided for them. Further, they are of

opinion that a committee should be appointed to consider how this could best be carried out, and to report what arrangements could be made for providing a separate room for the examination of patients on admission. They recommend that apartments be provided for accommodation of patients suspected of lunacy, in which they may be kept under observation until the nature of the case becomes apparent. They also recommend that when a patient is admitted on a medical certificate the resident or visiting medical officer should be handed such certificate.

Carnlough Water and Sewerage Scheme.

At a special meeting of the Larne Board of Guardians, held on July 24th, plans were submitted by the engineer in reference to the water and sewerage scheme, which were approved of; and it was decided to forward them for inspection and approval to the Local Government Board. Carnlough is one of the most desirable summer health resorts in Ulster, and new water and sewerage schemes will be a very important improvement.

Death of Brigade-Surgeon Coates, M.D.

Great regret is felt in Belfast by the news just received of the death of a distinguished Ulster man on July 10th at Calcutta—Brigade-Surgeon John M. Coates, M.D. He was born at Portaferry, county Down, in 1832, he entered Queen's College, Belfast, as a scholar in 1851, and in 1855 graduated M.D. in the late Queen's University of Ireland. The following year he entered the Indian Medical Service by competition, and was sent at once to Bengal and passed through the Mutiny of 1857. After going through the usual term of active regimental service he was appointed Sanitary Commissioner of Bengal, and afterwards he became President and Professor of Medicine in the Calcutta Medical College, an onerous and responsible post which he occupied for several years. In 1890, having had two extensions of service in the two positions he occupied, he retired with the rank of Brigade-Surgeon. He was a most distinguished student of the Belfast Medical School, and acquired an extremely high reputation on the eastern side of India. As a consulting physician his services were in great request and his opinion was very highly valued. Indeed, he enjoyed a very enviable Indian reputation both as a physician and as a professor in the Calcutta medical school, and he was personally a great favourite both with Anglo-Indians as well as with the natives. Some time ago he was urgently telegraphed for to go to India to attend a Rajah who had the utmost confidence in his skill. He went out at once to Calcutta, and it was while there that he contracted cholera from which he died. Brigade-Surgeon Coates was married to the daughter of a well-known and respected Belfast merchant, who survives him. A son is in medical practice in London, and some of his daughters are married in India. Brigade-Surgeon Coates was a man who by sheer ability and force of character rose to a very high position in India. Indeed, at one time he was offered the appointment of Surgeon-General of Bengal, which, however, he declined. By his death Queen's College, Belfast, loses one of her most distinguished alumni.

ROME.

(FROM OUR OWN CORRESPONDENT.)

The International Congress of Otology.

SCIENCE has her "autumn manœuvres"—for such undoubtedly are the coming *réunions* of *savants*, medical and other, for the review of their work during the last twelvemonth or more, and for the exposition and discussion of innovations in the perennial warfare against ignorance, disease, and death. The present year is exceptionally prolific in these assemblages—not the least interesting among them being that which will meet in Florence on Sept. 23rd, when an international congress will be held at which the leading aural surgeons of Europe and America will assist at a "march past" of otological medicine. The last congress of the kind, it will be remembered, took place in 1888 at Brussels, at the close of which it was unanimously agreed that its successor—the fourth in the series—was to be held in the Tuscan capital. Dr. Vittorio Grazzi, Professor of Aural and Laryngeal Medicine in the University of Pisa, is to preside, and among those already announced to take part in the proceedings are Dr. Adam Politzer (who holds the chair of Otology in the Vienna School), Dr. Gellé of Paris, Dr. J. Barr of Glasgow, Dr. Gradenigo of Turin, and a number of well-known aural surgeons in both hemispheres.

"La Clinica Moderna."

Professional, equally with political, journalism was long at a low ebb in Italy, reflecting all too faithfully the outcome of those obscurantist forces which dominated the peninsula. Now the national "risorgimento" includes the academic, the scientific, the literary, as well as the political and social life of the people, and conspicuous among its products is the improved character of its medical journalism. The "Policlinico," due to the inspiration of Baccelli, has now a worthy compeer in the "Alta Italia," published at Milan by the enterprising house of Bicchi. Its name betokens its object—"La Clinica Moderna"—and its staff, seventy in number, is drawn from the clinical teachers and *privat-docents* of all the Italian schools. Full reports of university lectures on the practical side of medicine are given from time to time—the subjects being medical, surgical, obstetric, dermatological, ophthalmic, and psychiatric, according as they emerge into special prominence under special circumstances. The tenth *fascicolo* is now before me, and its features are original and attractive enough to explain the announcement that has just reached me that the Munich school are projecting a journal similar in character and on similar lines.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

Medical Insurance.

THE Austrian Medical Chambers are at present considering the details of an insurance scheme, according to which every medical man will be expected to take measures entitling him to an annuity of £40, commencing on the attainment of his sixtieth year. From this obligation those medical men will be exempted who hold appointments giving them a claim to a pension amounting to the above sum, as well as those who are above forty years of age or are already insured. A fund is also to be founded for the benefit of the widows and orphans of medical men; the widows' pensions are to be £40 a year, and the orphans' pensions £4 a year for each child.

The Antitoxin Treatment of Diphtheria.

Among the recent contributions of Austrian physicians to the literature of the above subject is a noteworthy lecture by Dr. Jakubowski, professor of pædiatrics in Cracow, who gave details of 75 cases and declared himself a firm believer in serotherapy. Monti has treated 25 cases, among which 1 died, but Gnandinger, on the other hand, has reported on 27 cases, with a death-rate of 40 per cent., and he accordingly does not prefer this to other methods of treatment. Jakubowski employed all the various kinds of serum, differing from one another both in chemical composition and in the proportion of active antitoxin present. Roux's serum and Aronsohn's serum come up to that of Behring II. For the purpose of better preservation Roux adds camphor, Behring 0·5 per cent. of carbolic acid, Aronsohn 0·4 per cent. of cresol, and Bujwid (in Cracow and Warsaw) chloroform. Among the 75 patients of Jakubowski, 38 were treated with Behring's serum, 14 with Bujwid's, 20 with Roux's, and 3 with Aronsohn's. The injections were made on the thigh, and the punctures were covered with iodoform gauze and sticking-plaster. As the originator of the serum treatment considered it to be efficacious only in the case of diphtheria caused by Löffler's bacilli, bacteriological examinations were made and the results recorded. In primary diphtheria with greyish coating on the tonsils and the palatine arches Löffler's bacilli are certain to be found, but when the coating is yellow, staphylococci and streptococci are the prevailing forms, and the most efficiently conducted serum treatment is without success. In 17 per cent. of the cases Jakubowski observed urticaria and erythema. The former appeared three or four days after the injection and disappeared after three days; erythema showed itself on the trunk in the form of reddish spots, and was accompanied by fever and weakness of the heart. Three patients complained of pains in the joints. All these symptoms are to be regarded as consequences of some unknown toxines contained in the serum, and the physician, therefore, in the case of slight diphtheria, has to decide whether he will incur the risk either of

producing complications or, on the other hand, of deferring the use of antitoxin till a time when it is ineffectual. There are two methods of investigation which prove the efficacy of serotherapy—statistical returns and the comparison of the course of the disease before and during treatment. Widerhofer arranged the following scale: (1) slight diphtheria with good prognosis; (2) serious cases with doubtful prognosis; (3) very grave cases; and (4) necessarily fatal prognosis. He has, however, had under his care sixteen cases of the fourth form and ten among them have recovered. On the other hand, Monti distinguished: (1) slight cases with fibrinous coating; (2) grave cases with parenchymatous infiltration; and (3) gangrenous diphtheria. Jakubowski divides the cases into those where the morbid process is limited to the pharyngeal mucous membrane and those where diphtheria is complicated with croup. The course of slight diphtheria is modified by antitoxin; the false membranes are loosened and the progress of the diphtheritic infiltration is stopped. Paralysis and cardiac debility were not influenced by the remedy. In the case of croup and obstruction of the larynx antitoxin by itself is not sufficient, but intubation and tracheotomy are to be performed. Serotherapy relieves the difficulty of breathing; the patients expectorate a serous purulent sputum, and auscultation shows moist crepitant râles, whereas dyspnœa, cyanosis, and dry crepitant râles have hitherto been the rule. The average mortality has fallen from 50 to 32 per cent. Although Jakubowski has not obtained such good results as some other physicians, he nevertheless recommends the antitoxin treatment as being by far the most efficacious of all the methods proposed against diphtheria. Neudörfer has published in the *Wiener Medicinische Wochenschrift* his views on the pathogenesis and treatment of diphtheria. He asserts that even the gravest cases which have been given over by experienced physicians not uncommonly recover without any remedy, because nature limits the consumption of oxygen and thereby enables life to be maintained on a reduced supply. Without going so far as to agree with Caron, who exclaimed: "Hors la trachéotomie point de salut pour les croupalisés," Neudörfer nevertheless attributes to this operation a great importance, for by it the inspiration and consequent absorption of oxygen are increased in comparison with breathing through the nose. In his opinion tracheotomy may be performed even after respiration has ceased, provided that the heart still pulsates even feebly.

BEQUESTS AND DONATIONS TO HOSPITALS.—The committee of the current year's collections of the Liverpool Hospital Sunday and Saturday Funds has distributed among the Liverpool charities the following sums: Royal Infirmary, £2438; Royal Southern Hospital, £1696; Northern Hospital, £1484; Liverpool Dispensaries, £742; Infirmary for Children, £636; Stanley Hospital, £530; Eye and Ear Infirmary, £477; Consumption Hospital, £318; Convalescent Institution, £212; Hospital for Women, £212; St. Paul's Eye and Ear Hospital, £212; Cancer Hospital, £106; Home for Incurables, £106; Dental Hospital, £26 10*s.*; St. George's Hospital for Skin Diseases, £26 10*s.*—Mr. John Todd, late of Swanland Hall, in the East Riding of Yorkshire, has bequeathed £300 to the Hull Royal Infirmary, and £100 to the Hull and Sculcoates Dispensary.—The late Mrs. Church Dixon, of Govan-hill, Glasgow, has bequeathed £500 each to the Grosvenor Hospital for Women, London, and to the Belgrave Hospital for Children, Gloucester-street, London.—The late Mrs. Fraser, widow of the late Bishop of Manchester, has bequeathed £2000 to the Manchester Cancer Hospital, and £1000 each to the Manchester infirmary and the Radcliffe Infirmary, Oxford. The distribution of this year's collection for the Birmingham Hospital Saturday Fund to the medical charities is as follows:—General Hospital, £3050; Queen's Hospital, £2025; General Dispensary, £1150; Children's Hospital, £750; Eye Hospital, £500; Birmingham and Midland Counties Sanatorium, £225; Women's Hospital, £400; Lying-in Charity, £125; Orthopædic Hospital, £250; Ear and Throat Hospital, £100; Dental Hospital, £50; Skin and Lock Hospital, £225; Jaffray Suburban Hospital, £550; and Moseley Hall Convalescent Home, £100.—The late Mr. Edmund White of Bath has bequeathed £100 to the Royal United Hospital, Bath, and £500 to the Sanatorium, Weston-super-Mare.—The executors of the late Mr. Benjamin Waters, through their solicitors, have handed to the treasurer of the Royal Infirmary, Newcastle, £9595 2*s.* 9*d.*, being the amount the institution is entitled to under his will after deducting legacy duty.

THE

BRITISH MEDICAL ASSOCIATION.

MEETING IN LONDON.

THE sixty-third annual meeting of the British Medical Association commenced its work in London on Tuesday last, under the distinguished presidency of Sir John Russell Reynolds, the President of the Royal College of Physicians of London.

A dinner given by the President, then President-elect, of the Association on Monday evening may be said to have gracefully ushered in the proceedings of the Association, though the entertainment was in no sense official. About 100 guests sat down to dinner with Sir J. Russell Reynolds at the Buckingham Palace Hotel, and the company comprised a remarkable number of distinguished men in the profession, besides the President's personal friends, medical and lay. The speeches, which were quite informal and commendably brief, were made by the host, and by Dr. Ward Cousins, and Sir Richard Quain, whilst Dr. Frederick Roberts was responsible for the musical reception of the toast of Sir J. Russell Reynolds' health.

A large number of members of the Association assembled at St. Paul's Cathedral at half-past eleven on Tuesday morning, to listen to a special sermon which was preached by his Grace the Archbishop of Canterbury. Upon the somewhat transcendental text, "And he showed me a pure river of water of life, clear as crystal, proceeding out of the throne of God and of the Lamb," his Grace founded an eloquent comparison between the work of the physician of the body and that of the physician of the soul, and, pointing out the similarity between the workings of accurate science and moral law, concluded by emphasising the necessity for reverence in the presence of the stupendous secrets of Nature. This reverence, combined with true sympathy, formed, he considered, the true Religio Medici.

At the first general meeting, which was held in Exeter Hall in the afternoon, Sir J. Russell Reynolds was inducted into the chair by the retiring president, Dr. E. Long Fox of Bristol. This meeting was considered to be the largest annual general meeting ever held, upwards of 1,000 members having been present. Some of the business before the meeting was of a decidedly contentious character, and considerable heat was engendered in its discussion.

The motion down in the name of Mr. Lawson Tait, protesting against the Midwives Registration Bill, was worded as follows:—

"That we, the members of the British Medical Association, while anxious to improve the training and supervision, and, if need be, to support a practical scheme for the registration of medical, surgical, and midwifery nurses, emphatically condemn any proposal which has for its object the formation of a class of medical or surgical or midwifery practitioners other than those recognised under the Medical Act, 1886, as now existing. We protest against the Midwives' Registration Bill because it proposes to establish a class of midwifery practitioners who would be very incompletely trained in midwifery, and entirely uninstructed in medicine, surgery, and pharmacy—a matter of supreme importance in midwifery practice. We therefore instruct the council and the Parliamentary Bills Committee to use every means to oppose any Bill which proposes to give to persons registered under it power to conduct, on their sole and independent responsibility, any midwifery practice without the guarantee of a complete curriculum and qualification. That this association recommends a sum not exceeding £1000 be expended for the purpose of opposing any such Bill."

It was carried by a large majority, whose attitude left no doubt as to the sincerity of their votes.

On Tuesday evening there was a reception given by the metropolitan members of the Association at the Imperial Institute. Sir William and Lady Priestley, supported by the reception committee, consisting of Dr. and Mrs. W. Miller Ord, Dr. Church, Dr. Holman, Mr. Andrew Clark, Mr. W. J.

Walsham, Mr. Rickman J. Godlee, Dr. Sansom, and Dr. Bridgwater, received the company in the vestibule.

The programme was embellished with a portrait of Sir Charles Hastings, the founder of the British Medical Association. Arrangements were made for the reception of 5500 guests, and the Great Hall of the Imperial Institute was full, many having to stand, when shortly after nine the President, accompanied by some of the members of the Council, took up his position on the platform to deliver his address. The acoustic properties of the hall did not permit of the voice of the lecturer being heard all over the auditorium, and towards the latter part of his brilliant address a band started to play in the gardens, which prevented many from hearing his concluding remarks. But all those whose position in the hall—coupled with the fact that Sir J. Russell Reynolds' voice, though very clear, was not very loud—precluded them from hearing the address, are strongly recommended to peruse it in our columns, where it is printed in full (p. 245). After the delivery of the Presidential Address the company adjourned to the gardens of the Institute, which were brilliantly illuminated, but overcrowded to inconvenience. Herr Eduard Strauss conducted his orchestra, which performed a charming selection of music. The band of the West London Rifles was also in attendance.

On Tuesday afternoon the Baroness Burdett-Coutts and Mr. Ashmead-Bartlett-Burdett-Coutts extended the ever-ready and profuse hospitality of Holly Lodge, Highgate, to the members of the Association. The beautiful grounds of the best-known villa in Greater London were looking their best, and the members, who were entertained simultaneously with the members of the International Geographical Congress, spent a thoroughly pleasant afternoon. The Baroness Burdett-Coutts, supported by her husband, received her guests personally.

It is perhaps fitting that the oldest hospital except one in the British Islands should offer hospitality outside the usual official kind to the members of the British Medical Association, and the luncheon party given by the staff of St. Bartholomew's Hospital on Wednesday, July 31st, was a brilliant example of what such a function should be. About three hundred guests were there, the place of meeting being the great hall of the hospital, its walls hung with portraits of former physicians and surgeons. The portrait of the patron saint is at one end and at the other that of Henry VIII., the two recalling a remark of Burke, aptly quoted in Dr. Norman Moore's little brochure on the history of the hospital, "that there were temples dedicated in India to Brahma and Vishnu, the good and guardian deities, and to Rudor, the evil spirit, whose unwearied enmity and malign influence they deprecated." All the members of the staff, with the notable exception of Sir James Paget, who was unavoidably absent, were there, and among the distinguished guests were most of the prominent metropolitan and provincial medical men. Among the foreign guests were Professor Stokvis, Dr. Apostoli, Dr. Ottolinghi, Professor Mosso, Professor Pozzi, Professor Lazarewitch, and Dr. Fraenckel. The Presidents of the various Sections of the Association were present, and last, but not least, Surgeon-Captain Whitchurch, V.C. Speeches and toasts were, as became the occasion, few. Mr. Thomas Smith, an admirable chairman, proposed first the health of the Queen and then that of the visitors, especially Surgeon-Captain Whitchurch. Professor Stokvis, speaking excellent English, replied on behalf of the foreign visitors, and elicited much applause by saying that the history of St. Bartholomew's was the history of medical science. Dr. Clifford Allbutt spoke on behalf of the Association. Mr. Christopher Heath replied for the surgeons, and Surgeon-Captain Whitchurch, in a few modest and well-chosen words, spoke for himself. He was afterwards chaired round the square by a cheering crowd of students. After lunch the visitors inspected the various departments of the hospital, special interest being shown in the instruments and fittings of the electrical department, demonstrated by Dr. Lewis Jones. Altogether it was a very pleasant and successful gathering, and the staff of the hospital have every reason to congratulate themselves.

The address with which Dr. Wilks opened the proceedings of the section of Pathology and Bacteriology on Wednesday was characteristic of its author in the width of view and robust common sense that were its features. It is calculated, too, to do good service by recalling us for a time from the more recondite problems which face the pathological investigator to the root principles of morbid action and the destiny of morbid processes. For the whole tenor of his instructive remarks was to the effect that the destructive changes wrought by diseased action in tissues and organs proceed hand-in-hand with reparative and regenerative processes, whereby nature arrests morbid activities and tends to preserve vitality threatened by disease. Dr. Wilks did well to prove in so convincing a manner that the study of morbid anatomy itself is by no means exhausted, and we look forward to the practical development of his thesis in the observations of pathologists upon the conservative powers of the organism attacked by structural lesions.

Sir William Priestley's presidential address in the Obstetrical and Gynæcological Section of the British Medical meeting on Wednesday deserves to be carefully perused, as it contains the results of a long experience, and gives some warnings not by any means untimely considering the surgical ardour which characterises so much of the gynæcology of the present day. Sir William Priestley reviewed the many fashions which had prevailed during his professional career, from the time when nearly every pelvic symptom was imputed to so-called ulceration of the cervix before a careful study of the pathology of the condition was made, and when the very heroic measures were persistently employed for its cure. He referred to some of the more recent procedures, such as the stitching of the cervix, advocated especially by many American gynæcologists in nearly every woman who had borne a child, and to the fashion, fortunately moderating, in this country at least, of excision of the ovaries and tubes for merely symptomatic conditions. He deprecated the building up of a reputation by the publication merely of a long list of statistics of cases selected for operation which might not always be indicative of real progress, but rather of the reduction of practical surgery to a mere handicraft, and not a noble art founded on a true scientific basis.

Mrs. T. Seymour Tuke gave a garden-party which was numerously attended by the members and their friends on Wednesday afternoon at Chiswick House, Chiswick.

On Wednesday afternoon the members of the Association were invited to be present at a promenade concert held at the gardens of the Royal Botanic Society in the inner circle of Regent's Park. To those who attended it must have seemed wonderful that such a beautiful spot should be almost entirely unknown to Londoners, but without doubt the exclusiveness of the society has enabled it to preserve for its precincts an air of privacy which greatly enhances their loveliness. On the same evening, fortunately in perfect weather, the Royal Botanic Society gave a special evening *fête* to the members of the Association, the grounds being illuminated for the purpose. An exhibition was held of

medicinal plants in a marquee, and selections of music were performed at intervals during the evening.

There have been complaints in several quarters of the lack of hospitality shown by the City to the Association, but we hope that it is now clearly understood by London guests that the Corporation have not been wanting in courtesy. Congresses in London are numerous, and distinctions would be invidious. We, as medical men, might rightly hold that a medical congress should stand on a separate footing; but we cannot be surprised that the City has not seen the situation in the same light. Moreover, public entertainment of large bodies of men is expensive, and the commonest cry against the City of London is that it is lavish. While on the subject of hospitality we cannot refrain from calling the attention of the authorities of the British Medical Association to a small omission in their arrangements. They have omitted to give complimentary tickets to the scientific professors of Kings College, whose rooms they are occupying. Professors of Physics, Chemistry, Engineering, Arts of Construction, &c., might have been glad of an opportunity of hearing some of the technical papers, although they obviously could not belong to a medical association. We hope that, ere this, the oversight has been remedied.

A Masonic smoking concert was held on Thursday night at the Portman Rooms, Baker-street, the invitations being given by the Æsculapius Lodge and Chapter (No. 2410) to provincial and foreign medical brethren.

We desire to congratulate Dr. Tirard and his coadjutors on the admirable manner in which the Museum of Exhibits has been organised and the great freedom from objectionable elements that is noticeable in the catalogue. To those who know what such catalogues are apt to be, the fact that this one is free from puffery, either direct or indirect, will convey our impression that the editing has been drastic and fitting.

The business at the second general meeting was very interesting to the profession at large by reason of two motions of instruction to their Council passed by the Association. The first, the bearing of which upon the Bill for the Registration of Midwives will be immediately recognised, instructed the Council to approach the General Medical Council with a view to making the final examination of our students in midwifery more practical by greatly increasing the number of confinements to be attended. The second instructed them to take steps to have a Bill introduced into Parliament to increase the number of direct representatives upon the General Medical Council.

On Thursday afternoon there was an excellent choice of entertainment—a garden party given by Dr. Langdon Down at Normansfield, Hampton Wick; a garden party at the Hospital for Sick Children, Great Ormond-street, where Mr. J. H. Morgan was the efficient host; a garden party at St. Thomas's Hospital; and a smoking conversazione at Mr. Hutchinson's Clinical Museum, 1, Park-crescent, Regent's-Park. All were well attended and thoroughly enjoyable. The annual dinner of the Association was held in the Queen's Hall, Langham-place, on the same evening.

THE GENERAL MEETINGS.

THE FIRST GENERAL MEETING.

THE first general meeting was held in Exeter Hall, where a large number of members assembled, on Tuesday, July 30th.

The Secretary having read the minutes of the last meeting, Dr. LONG FOX, the retiring President, thanked the members of the Association for the high honour they had done him in permitting him to occupy the chair during the past year, and expressed to them and to the Council his high appreciation of the great kindness they had personally shown him. In conducting Sir J. Russell Reynolds, President of the Royal College of Physicians (the President-elect), to the chair, Dr. LONG FOX said the name and life-work of Sir J. Russell Reynolds were well known not only to the medical profession, but throughout the whole world, and he need not say how delighted they all felt in having him for their President.

Sir J. RUSSELL REYNOLDS, on taking the chair, said he could find no words in which to express his thanks to Dr. Long Fox for the kind manner in which he had introduced him to the meeting. The honour which had been conferred upon him was a great one, and he was delighted to accept it.

Sir WILLIAM HINGSTON proposed a vote of thanks to Dr. Long Fox, which concluded with the words, "that he be and is hereby elected a Vice-president for life." This was seconded by Mr. J. HUGHES HEMMING and carried with acclamation.

Dr. LONG FOX gracefully returned thanks.

Dr. WARD COUSINS (President of the Council) moved the adoption of the report for the year ending December, 1894. He referred to the great progress which the Association had made, and reviewed the work done during the year, dwelling in particular upon the necessity for amendment in regard to the Medical Acts, the need for reform in the matter of dealing with inebriates, and the examination of school children. Adverting to the losses which the Association had sustained by death, he paid a graceful tribute to the memory of Mr. Arthur Durham and Dr. Withers Moore.

Dr. DOUGLAS called attention to the usual delay in presenting the report.

Dr. WARD COUSINS assured Dr. Douglas that the matter should be taken into consideration in the future.

Matters relating to the conduct of the Journal were then discussed by Mr. COLIN CAMPBELL, Dr. RENTOUL (who thought the Association should financially help Mr. R. B. Anderson, who was fighting a battle for the profession), Mr. GARRETT HORDER, Surgeon-Major INCE, and Mr. GANT. The motion, which had been seconded by Mr. BUTLIN, was then carried and the report duly adopted.

The interim report of the committee appointed to consider complaints of general practitioners was then discussed, when the following rider was proposed by Mr. LAWSON TAIT: "That we, the members of the British Medical Association, whilst anxious to improve the training and supervision and, if need be, to support a practical scheme for the registration of medical, surgical, and midwifery nurses, emphatically condemn any proposal which has for its object the formation of a class of medical or surgical or midwifery practitioners other than those recognised under the Medical Act, 1886, as now existing."

Mr. COLIN CAMPBELL seconded.

Surgeon-Major INCE had the following resolution on the paper, but on the general request of the meeting it was withdrawn: "That in the interests of the mothers of the United Kingdom the regulation of midwives, after suitable training and examination, is a subject deserving the early and careful consideration of the Legislature, and in that consideration it is equally desirable that the legitimate rights and privileges of duly qualified medical practitioners should not be overlooked."

After a few words from Mr. VICTOR HORSLEY, Dr. MURDOCH CAMERON proposed: "That legislation on the subject of the registration and training of midwives should receive the support of the British Medical Association." Dr. HAYWARD, Sir WALTER FOSTER, Dr. CULLINGWORTH, Mr. WHEELHOUSE, Dr. WOODCOCK, and Dr. SCHARLIEB spoke, and the amendment was then put to the vote and lost. Mr. LAWSON Tait's rider was then carried by a large majority.

Dr. WELSFORD proposed, Dr. J. F. BULLAR seconded, and Mr. GEORGE BROWN supported the following resolution, which was carried: "That it is to the interest of the public and of the medical profession that the Council of the British Medical Association should take power and authority to protect both the individual and collective interests of the medical profession, and that the Council be requested to take such steps as may be necessary to enable it to actively undertake these duties, and that the funds of the Association be used for this purpose."

Dr. BEDFORD FENWICK moved: "That, in the opinion of this meeting, it is expedient that an Act of Parliament should as soon as possible be passed providing for the registration and education of medical, surgical, and obstetric nurses; and the Council of this Association are therefore

requested to consider this matter and to take such measures as may seem to them advisable to obtain such legislation." This was seconded by Dr. JOHN BROWN and carried. The meeting then adjourned.

SECOND GENERAL MEETING.

The second general meeting was held at Exeter Hall, on Wednesday afternoon, when Sir WILLIAM BROADBENT delivered the address in Medicine, which we print in full in our present issue. Upon its conclusion, Dr. PAVY said that he felt it a pleasurable privilege to be called upon to propose a vote of thanks to Sir William Broadbent for his address. All would admit that the deliverer of the address had been most wise and most happy in the subject he had selected, and they had listened to a learned address which could only come from a mind of a high order. The address was worthy of the man who had delivered it.

Dr. CUMING seconded the motion, which was carried unanimously.

Sir WILLIAM BROADBENT briefly returned thanks.

The business standing over from the previous day was then considered.

Mr. VICTOR HORSLEY moved the adoption of the Parliamentary Bills Committee report.

Dr. WOODCOCK seconded the motion.

A motion by Dr. LOVELL DRAGE, seconded by Dr. R. R. RENTOUL, that the Council should be instructed to petition the General Medical Council to recommend that no student be admitted to his final medical examination until he presents a certificate showing that he has personally conducted at least thirty confinements under the direct supervision of a registered medical practitioner, was carried. The motion also included instruction to the Council to take immediate steps to have Section 20 of the Metropolitan Poor Act, 1869, repealed, which prevents workhouse infirmaries from being used for the clinical instruction of medical students in practical midwifery, while pupil midwives are now admitted; and also to petition the committees, medical staffs, and, if need be, the subscribers to the City of London Lying-in, the British Lying-in, and the Clapham Maternities to withdraw their rule which excludes male medical students from clinical instruction at these hospitals, seeing that these are now used by pupil midwives.

A rider to the report was proposed by Dr. R. R. RENTOUL, supported by Sir WILLIAM FOSTER and Mr. WHEELHOUSE, which set out the reason why the Association should instruct its Council to take immediate steps to have a bill introduced into Parliament providing that the registered medical practitioners in England and Wales be empowered to elect five additional direct representatives, the practitioners resident in Scotland one additional direct representative, and the practitioners resident in Ireland one additional direct representative to the General Medical Council."

This also was carried, and after the reports of various committees had been passed the meeting adjourned.

THIRD GENERAL MEETING.

The third general meeting was held on Thursday in Exeter Hall, at 3 P.M., when Mr. Hutchinson delivered the Address in Surgery, which we publish in full. The Stewart Prize, awarded to Brigade-Surgeon-Lieutenant-Colonel D. D. Cunningham, F.R.S., was received for him by Mr. Francis Fowke, the General Secretary of the Association.

THE SECTIONS.

The work in all the Sections commenced on Wednesday, July 31st, with the various Presidential Addresses. Most of the Sections were well attended, and the subjects set down for discussion elicited some fairly general and practical debating.

MEDICINE.

Dr. PAVY, the President of the Section, having briefly introduced the subject, called upon Dr. Sidney Martin to open a discussion on

Diphtheria and its Treatment by Antitoxin.

Dr. SIDNEY MARTIN said:—There have been numerous remedies which have been used in the treatment of diphtheria, some of which—local applications—have for their object bactericidic action on the membrane or a loosening action by which the membrane is made to separate more easily. Others, again, have been vaunted for their general action—that is, for their effect in counteracting the general symptoms of the disease. In no instance, however, in which a drug has been so extolled is there evidence that there has been an effect on the general symptoms of the disease, either in relieving the bodily depression, in reducing fever, or in relieving or preventing the occurrence of broncho-pneumonia or paralysis and the extension of the disease to other parts. When, therefore, a remedy is introduced, the recommendation of which is based on well-established scientific experiments, its application in the treatment of the disease, and especially its effect on the symptoms of the disease, require close examination, not only at the bedside, but in the laboratory. The recommendation of antitoxin in the treatment of diphtheria is based on the results of a study of the pathology of the disease, and it is necessary that this should be clearly understood before the value of the remedy can be in any way gauged. Diphtheria may be defined as the membranous inflammation of a mucous membrane, usually of the respiratory passages, due to the invasion of the bacillus diphtheriæ, which does not enter the body, but forms poisons in the membrane which produce general symptoms of fever, &c., as well as a palsy due chiefly to a nerve degeneration. One point I should like to insist upon in this definition—namely, that the presence of nerve degeneration is *the* pathological test of diphtheria. There are other membranous inflammations of the throat due to micro-organisms, but diphtheria is the only one which leads to nerve degeneration. Similarly the pathological test of the bacillus is not that it produces death, but that it produces nerve degeneration. The pathological test of the poisons found either in the bodies of patients dead of diphtheria, or formed by the bacillus diphtheriæ outside the body, is not that they produce death (because many poisons have a similar effect) but that they produce nerve degeneration. It is not meant by this that there are no other poisons which produce nerve degeneration, because such are known; but when it is a question of the bacillus diphtheriæ it is nerve degeneration which is the final and most accurate test of its presence. It must be evident that the chemical poisons which are found in diphtheria are of great importance in the present connexion, inasmuch as it is these poisons which the antitoxin has to counteract. Patients the subject of diphtheria die, some from mechanical obstruction by the membrane, some from broncho-pneumonia, but the majority die from the effects of the poison in combination with one of the two first. Such are the deaths which occur from syncope, suppression of urine, "asthenia," and from paralysis. The chemical poisons which are found in patients who have diphtheria belong to two classes—one is found in the membrane, the other is found in the tissues (especially blood and spleen); and the action of these two classes of poison, although similar in some respects, present important points of difference The chemical poison which is found in the membrane may be extracted by treating the fresh membrane with sterile salt solution, diluting and concentrating at a low temperature, dialysing to get rid of the extra amount of salt, and precipitating with alcohol. The alcohol precipitate, after drying, may be dissolved in water. If a small quantity of this precipitate, which is almost imponderable, be injected into the vein of a healthy rabbit the animal will, after a time, show paralysis, which gradually increases in severity; it will waste; it may have diarrhœa, and it will die after a longer or shorter period. At the post-mortem examination extensive degeneration of the nerves is found, associated with fatty degeneration of the skeletal muscles, and—what is of extreme importance—fatty degeneration of the heart. Subcutaneously injected the poison produces a necrosis of the tissue. The characteristics of this poison, therefore, are that it acts in a single dose, and that it reproduces the symptoms and the pathological changes found in diphtheria. It is, so to speak, the chemical representative of the living, infective agent in the membrane, which is the bacillus diphtheriæ. No analysis is possible of this chemical substance in the membrane; but the profound effect which it produces on the body by a single infinitesimal dose would suggest that it belongs to the class of bodies known as ferments.

The poisons which are found in the tissues of patients dead of diphtheria—especially in the blood and the spleen—differ from this poison in the membrane. They are of two kinds, one of which belongs to the class of digested proteids—viz.,

albumoses similar in chemical reactions to the albumoses formed in digestion in the stomach and intestines—and the other body found is a non-proteid substance—namely, an organic acid. It may be said of this last substance that, although it produces some nerve degeneration, it does not produce the progressive paralysis or the profound effect on nutrition which is characteristic of the other poisons of diphtheria. The albumoses, on the other hand, have a very characteristic action. Injected intravenously into rabbits they produce in one or two hours a rise of body temperature, which, on the repetition of the dose, frequently lasts several days. They are, in fact, the fever producers in diphtheria. Although it is possible to kill an animal in a few hours by a single dose of the albumose intravenously injected, an event which does not follow the injection of the ferment of diphtheria, yet the characteristic action of the albumoses is only brought out by the injection into the vein of two or three small doses on successive days. When this is done, besides the fever produced the animal shows at the end of a week or ten days slight paralysis, which gradually increases, and which is not infrequently accompanied by severe attacks of dyspnœa, in one of which the animal may expire. Large doses of the albumoses produce great wasting of the body as well as diarrhœa. In the post-mortem examination of animals that have died there are found extensive nerve degeneration and fatty degeneration of the heart, and, after large doses, the fluidity of the blood which is characteristic of death from many different kinds of albumoses. These albumoses differ, therefore, from the poison present in the membrane, not only from the fact that their injection produces an immediate rise of temperature and their repeated injection a continuous fever, but from the fact that they act in producing palsy only in multiple doses. Injected subcutaneously they do not produce a necrosis, but œdema, the extent of which depends on the largeness of the dose given. In some experiments with the albumoses there is no paralysis observable during life, but after the animal is killed, in from four to ten weeks, the nerves are found degenerated in one or other part of the body, showing that the poison had some effect, although the degeneration was not sufficiently extensive to produce symptoms during life. The fatty degeneration of the heart which is a feature of poisoning by albumoses is an effect which is produced by the injection of albumoses formed by other micro-organisms; for example, the bacillus anthracis and some forms of septic cocci; and since these micro-organisms do not produce a toxic ferment, like the bacillus diphtheriæ, it is probable that the fatty degeneration of the heart is ascribable to the action of the albumoses and not to any direct action of the ferment. Both these classes of poisons—that which is found in the membrane and that which is found in the tissues of patients dead of diphtheria—can be formed artificially outside the body by growing the bacillus diphtheriæ in suitable media. The ferment which is present in the membrane—or toxine, as it is sometimes called—is now made by growing the bacillus diphtheriæ in slightly alkaline meat broth containing 2 per cent. of peptone and 0·75 per cent. of salt. When such a solution is inoculated with a pure culture of the bacillus and grown in an incubator while a current of air passes over the surface of the liquid, as in Roux's method, after a month the liquid is found to contain this poison in large quantity. The bacilli are removed by infiltration through a porcelain filter, and the filtrate, which is still alkaline and yellowish or yellowish-brown in colour, contains the greater part of the peptone which was added as well as the poisonous body. This liquid may be obtained of a very high degree of virulence, so that one-fifth of a cubic centimetre, or even one-tenth, injected subcutaneously into a guinea-pig weighing 500 grammes will produce death in thirty-six to forty-eight hours; and this effect of the poison has been taken as a test of its activity. In his earlier experiments Roux separated this poison by carrying it down in the liquid by means of calcium phosphate, and thus obtained a substance which reproduced the symptoms of diphtheria in infinitesimal single doses. Injected intravenously into rabbits, this toxine, as will be shown presently, not only reproduces the symptoms, but the nerve degeneration, which is the pathological characteristic of diphtheria.

If, instead of growing the bacillus diphtheriæ in broth containing peptone, it is grown in alkaline broth containing 0·75 per cent. of salt, but instead of peptone about 1 per cent. of alkali albumin, the products of the growth of the bacillus are not the same as in the first instance. Alkali albumin is a proteid which is digestible; that is, pepsin or pancreatin in suitable media will tranform it into albumoses and peptone. The bacillus diphtheriæ does the same. It transforms the alkali albumin into albumoses which have the specific action previously described, and forms a small quantity of an organic acid. These albumoses, for example, when injected in repeated small doses into rabbits produce fever, wasting, and sometimes diarrhœa, but chiefly a progressive paralysis, which is associated with extensive nerve degeneration and also fatty degeneration of the heart. For these reasons, therefore, the bacillus diphtheriæ is the cause of diphtheria. It is found in the membrane; it can be separated from the membrane; and when grown in suitable media outside the body it forms poisons which have the same physiological action as those present in the membrane and in the tissues of patients dead of diphtheria, the specific test relied on being the dependence of the palsy on the nerve degeneration. It is these poisons, therefore, which the antitoxin has to counteract. The pathological process in diphtheria must be considered in the following manner. When the membrane is formed the bacilli growing in it, especially near the surface, secrete a ferment which, when absorbed into the body, produce, by acting on the proteids of the body, digestive products, the chief of which belong to the albumose class. It is not that the body is poisoned by a single large dose and then the action stopped (although this may occur in certain cases), but it is that numerous small doses are in the course of the disease absorbed into the system, and are gradually producing their effects.

We will now proceed to discuss the effect of the diphtheritic antitoxin in counteracting the effects of these poisons. The preliminary experiments in this direction have been performed solely on rabbits, the poison alone being injected into one animal and the poison with a certain amount of antitoxin being injected into another, both animals being kept under similar conditions. The effect on the temperature and weight of the animal was observed, as well as the onset of any paralytic symptoms, and a post-mortem examination was made soon after death (or if the animal did not die some weeks after the inoculation) and the heart examined for fatty degeneration and the nerves for the characteristic degeneration. When the antitoxic serum itself is injected in large doses into the venous circulation of an animal it produces no rise of body temperature and no loss of weight. It is, as far as could be judged, a perfectly innocuous substance in the rabbit. The effect of injecting doses of the toxine in one animal and a dose of toxine mixed with a certain proportion of antitoxin in another is seen in the following experiment. The toxine was prepared by Roux's method, and was formed by the bacillus diphtheriæ growing in 2 per cent. of peptone broth for one month. The virulence of the solution may be gauged by the fact that one-tenth of a cubic centimetre, subcutaneously injected, killed a guinea-pig weighing 500 grammes in less than three days. In this experiment each of two healthy rabbits received 0·5 cc. into the vein of the ear, but in one 0·3 cc. of antitoxin was added. During the first day following the injection there was practically no effect on the body temperature, but towards the end of the second day the temperature began to fall rather rapidly, and continued low on the third day, after which it was not taken. Paralysis supervened on the fifth day, and became general, and death ensued on the six day. In the animal which received the antitoxin as well as the toxine there was no effect on the body temperature, which did not fall or rise. No symptoms were observed, and the animal was killed in forty-one days, being fat and well-nourished. In the animal that received the toxine alone the weight began to fall soon after the injection, and on the second and third days there was a rapid fall—nearly 250 grammes being lost during this time; and the weight continued to fall until death ensued, on the sixth day. In the animal, however, that received the antitoxin and toxine there was a slight rise in the weight, which continued until the animal was killed. To all appearances, therefore, the antitoxin in this experiment completely counteracted all the effects of the toxine or the diphtheritic ferment. The absence of any effect on temperature, the absence of paralysis and the gain in body weight show this. The post-mortem examination of the animal that died from the toxine showed well-marked fatty degeneration of the heart-muscles and characteristic nerve degeneration, one of the branches going to the vastus internus. In the antitoxin animal there was no fatty degeneration of the heart, but some of the branches of the nerves to the

vastus internus muscle showed the characteristic degeneration. The dose of antitoxin given to this animal, therefore, did not counteract all the effects of the toxine since some nerve degeneration was produced. The immunity strength of the specimen used (British Institute of Preventive Medicine) was great; and the amount injected was more than sufficient to counteract the effects of the toxine according to the calculations in vogue. A few other experiments were performed on the effect of the antitoxin in preventing the symptoms which have been described as produced by the injection of the diphtheritic albumoses into the blood. In one experiment two rabbits were chosen, and into each was injected on two occasions 7 centigrammes of albumose. In one animal 0·5 c.c. of antitoxin was injected with the albumose. After the first injection the temperature rose, then sank rapidly, recovering however the following morning. A second injection at this time produced high fever, succeeded by a fall on the same day, after which the temperature on the third and fourth days was practically normal. The animal that received albumose as well as antitoxin showed after the first dose no rise of temperature, but a well-marked fall, with recovery on the second day. A second dose now given showed a rise of temperature, succeeded by a fall, after which, on the third and fourth days, the temperature was normal. The body weight shows in both animals a gradual increase up to the eighteenth day and later, as in all healthy rabbits which are taken from the stock, placed in cages, and receive an abundance of food. The antitoxin in this case, therefore, although it diminished, did not prevent the effects on the temperature which normally result from the injection of albumoses into the venous system. In another experiment a much larger dose of albumose was given—namely, 0·125 grammes, on two successive days, followed by 0·072 grammes on the third day. In one animal antitoxin was given with the albumose, 1·4 c.c. being given altogether. The effect on the temperature when the albumose alone was given was a slight rise after the first dose, no rise after the second, but a well-marked rise after the third, lasting over the following day. In the antitoxin animal, following the first dose was a fall of temperature; following the second dose practically no effect; following the third dose a rise of temperature of the same character as that in the first animal, but rather less in degree. The effect on the body weight is well marked; the animal that received the albumose alone showed a nearly stationary weight for seventeen days, a slight increase being observable, but very slight. The animal that received the antitoxin as well as the albumose, however, showed after the first week a rapid rise of body weight, contrasting strongly with the first animal. The animal that received the albumose alone showed on the fourth day slight weakness in the hind legs; on the sixth day this was more pronounced and gradually increased till the seventeenth day, when it presented an appearance in marked contrast to the antitoxin animal. The latter was lively, and walked about the room like an ordinary rabbit; the former, when taken out of its cage, lay quite quiet, the legs half extended; it walked but little, and then with only feeble attempts. Both animals were killed on the twenty-third day. In the albumose animal there was well-marked fatty degeneration of the heart and degeneration of the nerves examined (phrenic and anterior crural), while in the animal that received antitoxin as well there was no fatty degeneration of the heart, and the degeneration of the nerves was insignificant in extent. These experiments are only the commencement of an inquiry into the subject, but they are in themselves quite definite, and tend to show that the antitoxic serum is capable of counteracting to a great extent the poisons which are found in the tissues of patients dead of diphtheria.

Discussion on Diphtheria.

The PRESIDENT, in calling for discussion upon the subject, announced that as the time at the disposal of the section was limited it would be better that those speaking should give what they had in crystallised form in their brains rather than long prepared papers.

Dr. GOODALL opened the discussion with an expression of the opinion that the most severe cases of diphtheria were those in which there was a persistence of the false membrane, rapid pulse continuing for a lengthened period, albuminuria, especially at the end of the first week, pyrexia, drowsiness, and vomiting, especially if frequent. Cases in which anuria was a feature were also hopeless, as were also those in which hæmorrhages into the skin, retro-peritoneal structures and heart muscle occurred. From Jan. 1st to June 30th he had under his care 241 cases of diphtheria in which the clinical and bacteriological diagnosis coincided. Of these, he had treated 105 with antitoxin and 136 without it with a difference of 11 per cent. in favour of those treated with antitoxin. At all ages this was the same, except over ten years, when the mortality seemed to be somewhat greater than when antitoxin was not used. Amongst his tracheotomy cases he had a recovery list of 64 per cent. As regards albuminuria he could not say that the use of antitoxin lessened the incidence of this disease, but certainly anuria was more frequent in those cases in which antitoxin was not used. As regards paralysis he found that it was met with far more frequently in severe than in mild cases; but, so far as his experience went, the cases were quite as frequent when antitoxin was used (17·1 per cent.) as when it was not (14·7 per cent), though here the difference might be because the number of recoveries was greater, as the paralysis was found to occur especially in the post-membranous stage of severe cases. He found that other forms of treatment were not of much value as adjuvants, but he was convinced that he was more successful in cases of pure diphtheria than when complicated with scarlet fever, whilst complicated with measles it was extremely fatal, as also with bronchitis and broncho-pneumonia. Taking it altogether, he was convinced that the antitoxin treatment was the best at the disposal of the medical man to save his patients, and as he wished to save his patients he should certainly continue to use it.

Dr. JOHNSTON considered that the following features characterised the more severe cases of diphtheria—albuminuria during an early stage of the disease, persistent patches of exudation, symptoms pointing to the probability of cardiac failure supervening, slight enlargement and pain of the cervical glands, and the general asthenic condition now so well recognised. Paralysis of the uvula, he thought, could scarcely be classed along with paralysis in other muscles as a sign of the severity of the disease; but he thought that a rapid pulse, becoming gradually slow and irregular, a diminution in the quantity of urine, accompanied by an increase in the amount of albumen therein, and vomiting were all exceedingly grave symptoms. As regards the diagnosis he was not yet thoroughly satisfied that bacteriological diagnosis was in all cases to be relied upon, and from his experience he had concluded that it was improbable that only one organism was the cause of the disease, although at the same time he admitted that the Klebs-Löffler bacillus might be present without any distinct sign of diphtheria. So far as he was concerned the results obtained by the use of antitoxic serum were somewhat disappointing. In Glasgow, at the Belvedere Hospital, they had a previous mortality over five years—highest 41·4 per cent., lowest 28·63 per cent. In Manchester his highest mortality had been 44 per cent. and his lowest 15 per cent. Since the commencement of the antitoxic serum treatment in Glasgow with material obtained from the British Institute of Preventive Medicine he had used it at first only in severe cases, and all of the cases died; but in 105 cases treated with antitoxin the mortality was 15·2 per cent. These were not the hopeless cases, but none of the mild ones were included as their stock of serum was small; the moribund and the mildest cases were not treated, and amongst these there was a mortality of 17·5 per cent.

Professor VON RANKE of Munich said that he wished to give the results of nine months' work in his diphtheria wards, during which period he had had 197 cases. Separating those complicated with scarlet fever and measles he had left 163 of pure diphtheria, and a death-rate amongst these—which were, he might say, severe and most grave cases, as only these were sent into hospital by medical men—of 17·7 per cent. Most of these cases were submitted to bacteriological examination, and in 93·8 per cent. Löffler's bacilli were found, in 12 cases in pure cultivation. As regards the cases in which croup was developed, of which 58·3 per cent. had croup on admission, he found that in 61 intubation was used, and amongst these there was a death-rate of only 32·7 per cent. In most cases the tube could be removed at the end of twenty-four hours, and in only three was it necessary for four days. In these cases he thought it advisable to perform tracheotomy. In every case he removed the tube each morning in order to determine whether it was safe to leave it out or not. Amongst his cases he had 68 in which the pharynx only was affected, with a mortality of 2·9 per cent., both cases being due to heart failure. He had 19 cases of septic

diphtheria, in only one of which death supervened. Of 2 cases in which the larynx was affected both died. It must be borne in mind that the septic and mixed diphtheria cases were not the same. Of those cases treated on the first day there was a mortality of 5·2 per cent., of those on the sixth day 40 per cent., and of those on the seventh day 46·6 per cent. As regards age, he had 5 cases under twelve months, all of which died; under two years the mortality was 37·5 per cent.; whilst of those over seven years of age only 7·7 per cent. died. Comparing this with the mortality in Munich for the previous eight years he found that the mortality had ranged from 42·2 per cent. in 1887 to 57 per cent. in 1894. So that in his clinic the fall was enormous. He considered, however, that the change of the clinical course of the disease offered even greater encouragement than statistics. He now found that the disease had lost its progressive course, and that cases of laryngeal stenosis should be intubated within the first twenty-four hours, and if not done then it was never found to be necessary, whereas under the old system he had often found it necessary to intubate or operate even four or five days after the patient was admitted.

[Our report of this debate will be continued next week.]

SURGERY.

Address of the President of the Section.

Sir WILLIAM MACCORMAC, Consulting Surgeon and Emeritus Lecturer on Clinical Surgery, St. Thomas's Hospital, delivered an address on Some Points of Interest in connexion with the Surgery of War. He said:—As the chief duty of a general is to bring his men into the fighting line as physically fit as possible, and to be as little hampered as may be by sick and wounded, it is hardly possible to over-estimate the value of a carefully prepared military medical organisation, or to lay too great stress on the responsibilities which devolve upon the medical officers in the field. The chief surgeon of the army should not only possess the willing support of his executive staff, but he should be, and generally is, the right hand man of the general commanding, enjoying his full confidence and active sympathy, else the disasters which have occurred before may occur again. This unfortunately is not his position in our army, for in spite of strenuous opposition from the Medical Department he is placed on the staff of the officer commanding the lines of communication, and not, as in most other armies, on the staff of the commander-in-chief. The modern rifle has introduced changes which have excited universal attention. This weapon sends a small hard projectile with enormously increased velocity to a much greater distance and with greater precision than was previously possible. Our troops used the Lee-Metford rifle in the recent Waziristan expedition and later in Chitral. The volleys were almost smokeless and noiseless, and wrought great havoc in the enemy's ranks. Examples of gunshot injuries from this source have not yet come to hand. Except cases of accident and suicide there are as yet but few specimens obtainable of the effects of the modern bullet on living persons; but we have a large experimental record from various countries of the effects produced both on the human cadaver and on animals. The experimental results are not exactly similar to those obtained in actual warfare, as the effect of a bullet striking a dead body is necessarily different to that it would have on a living person.

[Sir William MacCormac here detailed the dimension, weight, velocity, and range of modern rifle bullets. He continued:]

Vascular tissues, cavities like the skull filled with semi-fluid matter, and organs like the liver or spleen, are liable to suffer most from the so-called explosive influence. By this term is not meant the injury caused by the forbidden explosive bullet which the terrible appearance of the wound so strongly suggests, that in war time allegations are constantly made that these prohibited missiles are employed. The entrance wound may present nothing peculiar, but the soft parts within are pulpified, and the destruction of tissue extends for a considerable distance around the bullet track. The exit wound is large and lacerated, as if the soft parts had been burst outwards. When the bone is struck it is extensively comminuted, pulverised, and driven in all directions into the tissues. The wound beyond the bone is conical, the apex at the bone and the base at the surface. When an empty leaden box or tin, or an empty skull, is traversed by a bullet, the openings of entrance and exit will closely correspond to the size of the projectile; but if a closed or partially closed vessel of this kind be filled with wet sawdust, water, jelly, or damp clay, and a similar projectile is fired at it from the same distance, it bursts and the contents escape. William Busch was the first to suggest that these effects were the result of the sudden increase of hydraulic pressure in the parts struck. This explanation is not strictly accurate. The pressure is not truly hydraulic, as it is not exerted equally in all directions, but chiefly in the direction of the flight of the projectile, and it occurs in almost equal degree in both closed and entirely open leaden vessels filled with fluid or jelly. The cubic capacity of a closed vessel is in many instances increased nearly by a third, and in the open vessel the increase is one-fourth or one-fifth. The increase in volume is as much as 300 times the bulk of the projectile. The bullet also appears to have already traversed the vessel before this hydraulic influence has had time to take effect, for in many instances the displaced leaden tags at the exit wound can be restored to their original position, and the completely circular opening by which the bullet emerged reproduced. Water has, in fact, an astonishing power of resisting the progress of a bullet which, although capable of travelling perhaps 4000 yards through the air, will be arrested altogether after traversing three or four yards of water. Within the short time at my disposal it is impossible to discuss this difficult subject, but the explanation of the extraordinary development of explosive effect seems to depend on the rapid arrest of the flight of the bullet on piercing fluid matter, and its motion being transferred to the parts immediately surrounding it, and these again transmitting it to parts further removed, somewhat as wave circles are produced by a stone dropped into the smooth water of a pond. Bruns's experiments may be taken as a type of those made with reduced charges. He found intense explosive effects up to 400 yards. These attained their maximum in the skull, the bone being fractured in all directions, and upon semi-fluid organs, like the liver, spleen, a full stomach, or intestine, terrible damage was inflicted. In the elastic lung tissue, however, or upon empty viscera no effects of this kind followed. When the bone was implicated the track as far as the bone was usually no larger than the ball, but the tissues beyond were always extensively damaged and the exit wound was very large. At a distance of 400 to 800 yards explosive effects were only witnessed in the skull. Soft parts were traversed by a narrow channel no larger than the bullet itself, and with but little damage to surrounding tissues. The joint ends of the long bones presented keyhole openings, accompanied by much less extensive fissuring than was formerly the case. When the shaft was implicated the comminution was not extensive, the fragments were large, not detached from one another, and the exit wound small. At a range of 800 to 1200 yards explosive effects were only occasionally produced in the skull, and in a much diminished degree. In soft parts a narrow channel was made with little surrounding damage. In the spongy bones perforations occurred with but little fissuring, and in the compact tissue of the shaft there was comparatively little comminution. Finding that the experiments of Reger, Beck, and Bruns in Germany, and those of Delorme, Chavasse, Chauvel, and Nimier in France, and the conclusions derived from them materially differed, the Prussian Kriegs-Ministerium undertook a series of experiments, conducted so as to exclude sources of error as far as possible, and thus obtain for military surgeons trustworthy information as to the character of the injuries which the new weapon would produce in time of war. In the first place, full charges of powder were employed, and as the range varies from 25 to 2000 yards wounds of every description were obtained. These are represented by 1000 preparations preserved in the Friedrich Wilhelm Institute in Berlin, and the more important are given as full-size illustrations in an atlas of plates issued by the War Ministry. The bodies fired at were covered with shirting to estimate the frequency with which portions of clothing are carried in, and to give the tissues the normal amount of fluidity Wickersheimer's solution was injected, the tension of the bloodvessels being approximately maintained by injecting animal blood serum into the arteries immediately before the experiment. Up to 1200 yards single shots were discharged, and beyond this volley firing was resorted to. The bullets were collected in bags of sawdust, and in the case of each separate shot the bullet was examined in relation to the

wound it had produced; after volley firing this, of course, could not be done. The 900 experiments made by the German War Office do not justify Bruns's classification of gunshot injuries into groups according to range. As the range increases there is a gradual diminution in the velocity and energy of the projectile, and a corresponding diminution was observed in the extent of the injury. The bullet in nearly every case was found to go straight through the part struck, and the old-fashioned contour shot was never met with. The human body is traversed with ease at 2000 yards, and the skull, thorax, and abdomen will suffer alike. At less than half this distance the old bullet has lost most of its momentum, and becomes flattened out or impacted when it strikes a bone without penetrating deeply. In wounds of the abdomen the liver showed the largest amount of damage, and in some cases of suicide large portions of it were reduced to pulp. Up to 1200 yards the entrance wound was usually large and stellate, and the exit track funnel-shaped, with lateral rents extending from it. In the spleen and kidneys similar injuries were produced. In the intestine each bullet produced on an average three openings, and in some cases as many as eight, and the extent of the damage seemed to bear no defined relation to the length of range. It was more extensive when the intestine was full. Fearful destruction of skull is produced by a small 5 mm. (0·2 inch) bullet at 50 yards range. The vault is completely shattered, the base extensively split open, and the brain destroyed. The 8 mm. bullet produces similar results, but as a rule the fragments hold together. At 100 yards the entire vault is shattered, fissures extend from both entrance and exit wounds, and a gaping line of fracture was constantly found extending between them. The fissuring around the wounds of exit and entrance shows two different types, one circular the other radiating, and the base is also traversed by fissures. Up to 1600 yards the fissures gradually diminish or disappear, with the exception of the one connecting the entrance and exit wounds, and sometimes a clean perforation occurs, which becomes frequent at 2000 yards. Gunshot fractures of the long bones are very frequent and possess great interest. They vary according to which bone or part of the bone is struck. The effect upon the spongy extremities and upon the compact tissue is very different. From 100 to 200 yards the shaft of the femur is broken up into small pieces for an extent of from three to five inches, and the humerus from two to six inches. At the entrance wound in the bone the fragments remain in part attached to the soft parts, but at the wound of exit they are completely separated. The adjacent muscles are filled with bone *débris* and detached fragments of bone, the muscles and tendons are torn, and the exit wound in the soft parts is large and ragged. In the spongy bones and spongy extremities of the long bones the crushing and fissuring at short range are also great, but the fissures are often concealed by untorn periosteum, and there is less damage to the soft parts at the wound of exit. At a range of 600 yards there are occasionally keyhole shots with radiating fissures in the spongy tissue, and at 800 yards the keyhole channels become frequent, but even up to 1600 yards the compact tissue is extensively fractured. At 1200 yards the fragments of bone as a rule are no longer driven into the soft parts beyond; but this happens occasionally even up to 2000 yards.

The conclusion to be drawn from the German experiments is that the damage to the shaft of a long bone is very extensive for all ranges up to 2000 yards, the main difference being that at short ranges of 200 or 300 yards—for example, the fragments are more numerous, smaller, and more stripped of periosteum, while the converse obtains at longer ranges. The great velocity, comparatively small size, and hardness of the modern projectile render it much less liable to lodge in the body. It nearly always traverses the part struck and is seldom arrested in the tissues, thus avoiding a source of much after trouble and suffering. The disastrous searching for lodged bullets and repeated attempts to extract them, which formed so considerable a part of the older military surgery, will now be largely done away with. Most surgeons of experience have arrived at the conclusion that the wounded often incur greater risks from the protracted search made for the foreign body than any the bullet itself would cause if left alone, a remark which does not apply to the necessity for removing particles of clothing which may be carried in, which are, of course, septic. The new projectile does not contuse an artery or push it aside. There is no evidence that an artery is ever deflected and thus escapes injury, and, except at short range, the bullet never wholly divides one of considerable size. Cases where a large artery is wounded generally die before help arrives, and it is interesting to know that in the late war in China the Japanese surgeons had such perfect arrangements that in two cases—one a wound of the brachial, the other of the femoral artery—the vessels were tied and the patients saved in the fighting line itself.

Perhaps the most important matter to consider is how far the injuries inflicted by the new projectile will be more amenable to successful treatment. In a memorable paper communicated to the first Congress of German Surgeons Volkmann pointed out that the subcutaneous character of gunshot injuries of bones and joints made them less dangerous than compound fractures with more extensive damage to the soft structures produced by other causes. Subsequent experience has helped to confirm this view. Pirogoff has told us how astonished he was at the easy manner the wounds produced by the small Circassian copper bullet healed during the Russian war in the Caucasus. Not only flesh wounds, but often penetrating injuries of the chest and of the joints were readily recovered from with scarcely any suppuration. During the recent war in Chili it is reported by Dr. Stitt that flesh wounds which had not been probed and thus infected readily healed under a scab, that the favourable character of lung wounds was especially noticeable. The bones were less comminuted, and united in about half the time formerly required. Dr. Rivero of Valparaiso has made similar observations. He noticed especially the smallness of the apertures caused by the Mannlicher rifle bullet, and that the injuries generally were less dangerous to life. I have received a very favourable account of the character of the wounds caused by the Lee-Metford bullet from Surgeon-Lieutenant H. Burden, who was present at three actions during the Chitral expedition. He reports that, so far as he has seen or heard from others, the wounds through the soft tissues at both short and long ranges were clean and incised, with very little or no bruising, and that they quickly healed. Through the bones clean punched-out holes were made with little splintering, and he said in no case was there any explosive action. The damage caused by the large bore bullets of the enemy was much more severe. Another interesting report from Chitral has been received in a private letter from Surgeon-Lieutenant C. H. Evans, I.M.S. The seriously wounded and dead, he writes, were all carried off the field, but later on many of the Swatis, with uncomplicated wounds of the soft parts, came in to be dressed and were treated by Surgeon-Lieutenant Evans, who reports that these cases healed rapidly and well, notwithstanding the use of dressings very far from aseptic applied by the men themselves. In reply to questions, these patients informed Surgeon-Lieutenant Evans that the reason why none of the more serious cases had come for treatment was that "all the men who had suffered fracture of long bones were dead"; these people knew what they were talking about, because the cases referred to were those of their own relatives and comrades. During the French war I have often seen Chassepot bullet wounds heal without suppuration. Longmore never saw a gunshot wound heal in this way, and indeed considered suppuration to be inevitable. In the Russo-Turkish war von Bergmann treated severe gunshot injuries of the knee not only with success as regards preservation of the limb, but also in respect of restoration of function, and this even when the bones were extensively implicated. Of fifteen cases only one died. In eight there was no suppuration, although in three of these the projectile had lodged. Reyher had twenty-eight similar cases without a death. Two instances are reported by the Prussian Surgeon-General of gunshot through the knee at a distance of only 100 yards treated by occlusion which recovered with a movable joint. When the new projectile traverses the lung the track is uniformly cylindrical, smaller than the bullet, and smooth-walled, with little contusion of the surrounding tissue, and splinters from injured ribs are but seldom driven in. Severe damage was only found where the bullet had struck transversely, had carried in fragments of rib, or wounded a large vessel or bronchus. In many cases no serious symptoms were produced, and a diagnosis was only arrived at by the position of the wounds of entrance and exit. In others there was cutaneous emphysema, hæmoptysis, difficult respiration, and pneumo- or hæmo-thorax. Death in every instance was due to injury to the great vessels or bronchi at the root of the lung, and, excluding cases of suicide, the mortality in the cases recorded was only 12·5 per cent. The wounds healed in most cases without trouble in three

weeks' time on an average. Only once did empyema occur showing the generally aseptic nature of the wound, and the subcutaneous character of the small openings produced by the bullet. The treatment, therefore, will be mainly directed to sealing the wounds of entrance and exit, and operative interference will be rarely required except for serious hæmorrhage. Unfortunately, gunshot wounds involving the brain and the abdominal cavity remain as fatal as before. In the war of 1870–71 about 10 per cent. of the total number of gunshot wounds were of the head, but only about half of these were perforating. In future wars every bullet which touches the skull, even up to 2000 yards and more, will probably fracture it extensively, and at 3000 yards the bullet may perforate and lodge. These cases, almost without exception, die either immediately from the injury to brain tissue and shock or by hæmorrhage and subsequent inflammation. Very few indeed suggest operative interference or any hope of a favourable issue, but to these the ordinary rules of practice would apply. In 1870–71 a large proportion of the wounds of the abdomen did not perforate the cavity, but in future this will not be the case, as even at the longest ranges the new projectile will traverse the abdomen and wound its contents. No probing should be attempted, and Senn's inflation method is likely to do harm by forcing fæces through the wounds in the intestine into the abdominal cavity. Hitherto cases of this kind have ended fatally, and in the next war it is to be anticipated that the mortality will also be very great. As a rule those injured in this way do not die immediately unless a trunk vessel be divided, but will be carried to the dressing stations and shortly succumb to hæmorrhage or infective peritonitis, the result of fæcal extravasation, or of matter carried in by the bullet. Nothing is of avail in these cases but very early laparotomy, for when peritonitis has set in operation will come too late. It has been suggested that the field hospitals should possess an outfit for the operative treatment of gunshot injuries of the abdomen, and that wounds of the viscera should be dealt with by suture, aseptic tamponade, or, in some instances, by partial or complete removal of the injured organ. But I fear that anyone who has seen the trouble and confusion of battle, the sudden and overwhelming amount of work and strain thrown upon everyone concerned, and the impossibility of adequately meeting the great emergency will regard proposals such as these as scarcely practicable. I think we are justified in believing, although there is high authority for a contrary opinion, that the next great war will be more destructive to human life than any of its predecessors. But very many cases will remain less severe in character, more capable of successful treatment, and less likely to entail future disablement, while improved sanitation and antiseptic methods will enormously increase the proportion of recoveries. It is the unceasing effort of modern surgery to provide antiseptic protection in an effective form in time of war; and I may be permitted to recall that the medical organisation during our last war in Egypt was so complete in this respect that not a single case of infective wound disease occurred during the whole campaign.

Rhinoplasty in India.

At the opening of this Section Brigade-Surgeon-Lieutenant-Colonel KEEGAN read a paper on Rhinoplasty in India. He commenced by remarking that in England rhinoplasty was required chiefly for cases in which the nose had been destroyed by lupus or syphilis; but in India the loss of tissue was most frequently the result of injury. The chief points in the operation were as follows: A flap was raised from above down, composed of the tissues over the nasal bones; this flap was turned downwards so that the skin lined the future nasal cavity. A second flap was turned down from the forehead to cover the nasal bones and the first flap. The paper was illustrated by a lantern demonstration of photographs of patients before and after rhinoplasty. The results shown were very excellent.

The Diagnosis and Treatment of Fractures of the Upper Third of the Femur.

Sir WILLIAM STOKES opened a discussion on the Diagnosis and Treatment of Fractures of the Upper Third of the Femur by a paper illustrated by lantern demonstrations. He said that the difficulties met with in connexion with fractures in the upper third of the femur were very great, and many variations occurred in the signs present; there was usually shortening, but in some cases no alteration in length of the limb could be found, and occasionally it was said that there might be even slight lengthening; eversion was generally present, but sometimes inversion. Again, the shortening may occur immediately after the injury, or it may gradually develop. In some there is exuberant formation of bone, in others no attempt at development of new bone seems to be made. It was usually said that fractures of the cervix femoris did not occur in the young, but a photograph was shown of a specimen of fracture of the neck of the femur with the trochanteric epiphysis still ununited. A further element of difficulty was to be found in the fact that the more severe fracture was often due to the slighter injury. There are several anatominal details of importance in connexion with these fractures; the chief one is the presence on the neck of the femur of a fibrosynovial envelope, the so-called "cervical ligament" or retinacula, and on the integrity of this the final result chiefly depends. The cervical ligament is most marked anteriorly, where strong fibrous bands are present. When the cervical ligament is torn the blood-supply of the point of fracture is materially interfered with and non-union is exceedingly likely to result. After injury to the hip complete interstitial absorption of the cervix femoris often occurs, and this may result with or without fracture. Senile atrophy predisposes to this absorption. When the absorption occurs without fracture it is to be ascribed to a chronic osteoporosis set up by the contusion. The senile change referred to is not accompanied by any alteration in the angle formed by the neck of the femur; it was shown long ago by Sir George Humphry that though in the child the angle of the neck of the femur is greater than in the adult, yet when once adult life is reached no further change in the angle occurs. Certainly in some cases a diminished angle is found, yet these are probably cases of absorption resulting from contusion. The alteration in the angle of the jaw is in no way parallel resulting as it does from muscular action, not counteracted by the teeth meeting those in the upper jaw. The fractures under consideration may be divided first of all into those of the cervix of the femur and those of the base of the cervix. The fractures of the cervix are those formerly called intracapsular, and may be divided into those with penetration of the head by the cervix and those in which this does not occur, and further division of these groups according to degree of penetration and extent of laceration of the cervical ligament results in the formation of five classes of fracture of the cervix femoris. Of fractures of the base of the neck of the femur two main classes exist—those in which impaction occurs and those in which there is no impaction. The lesser divisions depend on the degree of impaction and its position. In one of these with partial impaction above there is great increase in the obtuseness of the angle formed by the neck, and this is the condition in which lengthening may occur. The eversion which accompanies a fracture of the cervix or of its base is the result of rotation of the shaft on the neck. The inversion which is occasionally present was attributed by R. W. Smith to the altered action of the adductors, which have become internal rotators owing to the forward position of the lower fragment but this explanation is unsatisfactory, and the inversion is probably caused by the limb having been in a position of inversion at the time the accident occurred. The differential diagnosis is from luxation, fracture of the brim or fundus of the acetabulum and from contusion. The chief points in the diagnosis were then given. As to treatment there was some difference of opinion; fixation had been condemned as the fragments were said to be drawn asunder; the danger of keeping aged patients for a long time in bed had also to be considered. Senn in 1883 made a large number of experiments on cats and dogs, and he found that after fracture of the neck of the femur simple fixation by plaster-of-Paris in no case resulted in bony union, but that pegging with bone or metal nails always gave rise to union by bone; he advised lateral pressure on the great trochanter, and he considered it important not to break down an impaction. Southam recently broke down an impacted fracture of the base of the cervix of the femur in a patient aged twenty-seven and put it up with extension; the result was perfect; but probably this treatment is only applicable in those rare cases where these fractures occur in young patients. It was important to bear in mind that in four out of the five classes of fracture of the cervix bony union can occur—that is to say, if penetration be present or the cervical ligament be intact. Rest, fixation, and some extension are the three important points in treatment. The extension must on no account be too great. He had not employed lateral pressure, and it did not seem to be necessary. Bryant's splint was a suitable one for most cases, but the

modification introduced by himself was of much value for old people, as it allowed the patient to sit up in bed. Lastly, one should remember that the farther the fracture was from the base of the neck the less chance there was of boney union.

Sir GEORGE HUMPHRY considered the treatment the most important part of the subject. Fractures in any part of the body will unite at any time of life if the parts are only kept in contact. The angle formed by the neck certainly does not alter in old age, but thinning of the cancelli does occur, and this is probably due to the devouring tendencies of the cells with which the cancelli are surrounded. The cancelli are necessary to enable the upper part of the femur to withstand the shocks to which it is subjected; and from this fact resulted the rarity of fracture in this situation in the young and its frequency in the old; yet the bone-forming power of the cells thrown out is not lost, and so bony union is common. At the base of the neck of the femur bony union is the rule, and it is rare to find specimens of fractures in this situation showing non-union; often much bony material is thrown out, and firm bony union may result even after great comminution. Fractures inside the joint occur, as might be expected, where the bone is narrowest—that is, close to the head. In this case bony union is liable to fail. This is not due to any want of bone-forming power on the part of the patient, for a fracture elsewhere unites readily: it is not due to any lack of blood-supply, as every part of a bone is adequately supplied with blood. There are two causes to which the non-union may be attributed: (1) the fact that there can be no overlapping, as the head is embraced by the acetabulum, and there is generally a diminution of the amount of bony surfaces in contact; and (2) the new bone-forming cells which are exuded at the seat of fracture are not detained there, but escape into the joints. He showed a drawing of a femur in which a fracture of the neck had occurred a year before death; the patient was eighty years old, and bony union had occurred. The retinacula (the fibrosynovial ligament) are stronger in front than elsewhere, but it is also more adherent there; hence it is much more commonly torn in front. The absorption of the neck, which so often follows fracture, may take place very rapidly, and this chiefly, if not exclusively, takes place between the fracture and the great trochanter (a specimen illustrating this was exhibited); the absorption is due to the rubbing of the trochanteric part on the inner fragment.

Mr. BRYANT said that he thought the classification of fractures about the neck of the femur into eleven divisions, however useful from a pathological or museum point of view, was of but little value clinically. The distinction between intra-capsular and extra-capsular fractures was not of much importance for treatment. The presence or absence of impaction was probably the chief point to determine. He thought that most fractures of the upper end of the femur were impacted, and that it was of great importance to try to keep them impacted. He agreed that the inversion occasionally met with was due to the position at the time of the fracture; in these cases the anterior part of the neck is driven into the trochanter. As to treatment, immobility, quiet, and not much extension are the essentials. In forty-two consecutive cases of his of fracture of the neck and base of the neck of the femur, with an average age of seventy, all went out with good and useful limbs. One great danger is to attempt to make the diagnosis very certain by excessive manipulation of the part in a useless wish to obtain crepitus. As to impacted fractures, undoubtedly the general rule should be not to loosen the impaction, but exceptions do occur. He mentioned that he had a case now under treatment, a lady of thirty years old, who had an impacted fracture of the upper end of the femur and inversion of the foot; he loosened the impaction under an anæsthetic by rotating outwards, and put it up in a double splint. Now, three weeks later, there is no shortening, and much callus has formed at the base of the neck of the femur.

Professor BENNETT (Dublin) preferred to classify these fractures according as to whether they were produced by direct or indirect force. Of 136 specimens of these injuries, forty-six were intra-capsular and seventy-two were extra-capsular—figures very different from those given by Malgaigne. In attempting to cause dorsal dislocation of the head of the femur in two cases an intra-capsular fracture had resulted; the bodies were of persons between seventy and eighty. In all the impacted intra-capsular fractures (six in number) bony union had occurred. Rest and contact of the fragments will ensure osseous union. All the extra-capsular fractures were impacted, and were due to violence applied over the great trochanter, or to falls on the feet or knees.

Mr. GREIG SMITH (Bristol) said that pathological classifications did not form good clinical foundations. The best classification is into those due to indirect violence and those caused by blows over the great trochanter. The former variety of injury gives rise to a fracture of the neck anywhere, but usually near the head; the latter causes fracture of the neck anywhere, but especially near the trochanter. He considered that the obliquity of the fracture was important, and that in an indirect fracture more of the posterior than of the anterior surface is chipped off. The want of union in fractures due to indirect violence is caused by the absence of a nidus for the development of the new bone.

Mr. MAYO ROBSON said that elaborate classifications could only be taken from the post-mortem rooms, and were useless clinically. The best classification was into impacted and non-impacted. As to treatment, apposition is of chief importance, and the fracture should be disturbed as little as possible. In the case of old people, they should be put to bed, and treated with a long splint, with weight and pulley; if recumbency be well borne the treatment may be continued, but if badly borne a Thomas's hip splint and a starched bandage should be put on, and the patient allowed to get about. As to impacted fractures in young people, he thought that Mr. Southam's case could hardly be the first in which the impaction had been loosened intentionally.

Professor SINCLAIR (Belfast) said that bony union occurred much more frequently than people thought. The chief point of value is the history of the injury. When an intra-capsular fracture is due to an external rotary movement the periosteum is not so likely to be torn, and bony union is likely to occur. Many of the specimens he had examined had had no treatment, and yet osseous union had taken place. He did not consider that any splint was needed for impacted cases.

Sir WILLIAM HINGSTON (Montreal) said that the results obtained in this country seemed much better than those they could obtain on the other side of the Atlantic, as there non-union in fractures of the neck was the rule, and that it was very rare to get union without any shortening.

Mr. T. J. GANT thought shortening was always present.

Dr. S. H. WEEKS (Portland, Maine, U.S.A.) considered the diagnosis of great importance, and in this direction the pain, worse on movement, was of great value. The age of the patient and the history of the injury must also be taken into consideration.

Mr. C. B. KEETLEY said he thought that fractures of the upper third of the femur should be treated like any other fracture. In one case under his care he operated on a woman who had had fracture of the neck of the femur a year previously, and removed the head, which had become ankylosed to the ilium; the result was favourable. For some very oblique fractures of the femur with much shortening he advocated the use of the pins which he had devised.

Sir WILLIAM STOKES, in reply, said that he thought the tearing of the cervical ligament greatly interfered with the blood supply of the upper fragment, and was the chief cause of the want of bony union. The classification he had put forward seemed to him to be of value as influencing prognosis.

Movable Kidney.

Dr. KENDAL FRANKS gave a lantern demonstration on Movable Kidney, and explained the retention of the kidney in its normal position as the result of the pressure of the neighbouring viscera. This was well shown from specimens of kidneys hardened in the body by means of injections of Muller's fluid; these kidneys displayed well-marked depressions caused by the liver, bowel, and other organs. The symptoms (gastric crises) accompanying movable kidney could be easily explained by the mechanical effects of traction on the duodenum or colon.

OBSTETRIC MEDICINE AND GYNÆCOLOGY.

Address by the President of the Section.

Sir WILLIAM PRIESTLEY, Consulting Physician to King's College Hospital, late Professor of Midwifery in King's College, took for the principal subject of his address Over-operating in Gynæcology. He said:—

In opening the Section of Obstetric Medicine and

Gynæcology it may be appropriate that I should say a few words as to the present position of this important department of medical science and art. Thanks to many workers, the progress has been so great as almost to merit the appellation of the word "marvellous," and I know no instance within recent days where the triumph of preventive medicine has been so signally marked as in the application of the antiseptic system to midwifery. Puerperal fever has been practically annihilated in lying-in hospitals. Before the introduction of antiseptics, according to the figures of Le Fort, the deaths were then more than 34 per 1000; they have been reduced since the careful employment of antiseptics to fewer than 5 per 1000. Progress of a like kind has, however, not taken place in private practice. The researches of Dr. Boxall have made it clear that there is a large preventable mortality among puerperal patients attended at their own homes, and if this continues women delivered in lying-in hospitals may be actually safer than those confined in their own homes. In view of this state of things it has been determined to have a discussion in this Section on the precautions to be observed in private midwifery practice, and I am sure you will agree with me that its initiation could not be placed in better hands than Dr. Herman's. We can with great satisfaction look upon other advances in our art. One of the most notable is the improvement in the structure of forceps, more particularly the axis-traction forceps of M. Tarnier. The invention of this instrument marked a new era in obstetric practice. It affords greater security to the mother and child, and lessens the necessity for operations which imperil maternal or infantile lives—perhaps both. Modifications of instruments used for craniotomy and other like operations have made them, when actually necessary, easier in performance and safer for the mother, while the general adoption of antiseptics has greatly widened the field for such proceedings as Cæsarian section, Porro's operation, and symphysiotomy in cases of extreme deformity. But it is in the department of so-called gynæcology that in later days the greatest activity is to be noted. I can recollect a time when tapping was regarded as the only legitimate operation for ovarian tumours, and as this was only palliative and available exclusively for cysts containing fluid, the life of the woman, after the disease was established, was computed as worth at most but a five years' purchase from an actuarial point of view. In those days a great surgeon expressed the opinion that he who attempted the entire removal of an ovarian tumour ought to be indicted for manslaughter. Now, thanks to the introduction of anæsthetics and the careful observance of aseptic or antiseptic precautions, ovariotomy is not only sanctioned by the most conservative of minds, but it has had a success in many hands which evokes unqualified admiration. Enthusiasm may, however, readily be carried too far. I have witnessed the wax and wane of many enthusiasms which have had their day, and have had a share in bringing something like discredit on a department of practice which, rightly exercised, is productive of great good, but exercised unwisely is capable of producing infinite harm. Looking back on forty years of gynæcological practice I can recollect what has been termed a craze for inflammation and ulceration of the os and cervix uteri. During its prevalence it was said of some devotees that every woman of a household was apt to be regarded as suffering from these affections, and locally treated accordingly. Shortly afterwards came a brief and not very creditable period when "clitoridectomy" was strongly advocated as a remedy for numerous ills. This, fortunately, had a very limited currency, and was speedily abandoned. Then followed a time in which displacement of the uterus held the field, and every back-ache, every pelvic discomfort, every general neurosis was attributed to mechanical causes, and must needs be treated by uterine pessaries. Again, we had an epoch when oöphorectomy or castration of women was not only recommended and largely practised as a means of restraining hæmorrhage in bleeding fibroids, but also as a remedy for certain forms of neurosis even when the ovaries were healthy or not seriously diseased. Ere long it was discovered that removing the ovaries for neuroses, even if safely accomplished so far as life was concerned, besides unsexing the woman, was frequently followed by more severe nervous penalties than those for which it had been used as a remedy; that, in fact, it often entailed a loss of mental equilibrium, and sometimes ended in insanity. Close upon this, again, came an ardour for stitching up rents in the cervix uteri following childbirth—rents which were described as producing many hitherto unknown evils, and frequently conducing to the establishment of malignant disease. One votary of this practice boasted of having detected and operated on in a short period no fewer than 300 or 400 cases which he had found in examining 900 women. Surely here was a marked illustration of the *nimia diligentia*. No such experience, so far as I know, has been chronicled by any other writer. Lastly, we have had what has been described as an epidemic of operations for excision of the uterine appendages; and even now, although this operation has but recently come into vogue, I see there is a reaction against its too frequent performance and a demand in its place for more conservative methods which shall leave these parts of the generative system a chance of still performing their important functions.

[Sir William Priestley here urged that the anxiety of a patient to have an operation performed should not be allowed to outweigh the counsels of prudence against it, and he strongly condemned the employment of serious measures for the treatment of uterine fibroids unattended by active symptoms. He continued:]

One of the untoward results of spurious attempts at progress is that the announcement of some new proceeding or operation issued before its value is proved is apt to be taken up as the last new thing in science by many imitators, who, unwilling to be left behind, at once adopt it and use it perhaps in most inappropriate cases. Thus I have known the uterine appendages removed for matting together of parts by pelvic cellulitis and peritonitis after delivery because the patient was too impatient to wait for the slow recovery which would have taken place in due course. In like manner I have heard of the ovaries being removed for chronic metrorrhagia after abortion. Curetting, useful though it be in suitable cases, because it is new in fashion, has been proposed to cure a somewhat copious loss of blood due to the approach of the climacteric, which after a time disappeared spontaneously. The same treatment has within my experience been recommended for sterility in a young wife recently married, and who had no symptoms beyond her impatience to have children. Something operative must be done, and in lack of indication for anything else this was proposed in all good faith.

And now in conclusion I desire to say a few words on a subject concerning which I may not be in unison with many of the members of the Section, probably not even with some of its officers, but I am sure they will forgive me when I take the entire responsibility upon myself. The subject I allude to is the tendency in the present day of the obstetric physician to invade the domain of the surgeon in reference to what may be called external operations. In this country at least the departure is comparatively a new one. It may be that I have been brought up in a different and more exclusive school, and that the advance of age makes me unwilling to extend the boundaries of the work formerly allotted to the physician-accoucheur in hospital and private practice; but I must confess I have my doubts whether we are right in throwing aside the old restriction, and whether we shall enhance our position in the profession by doing so. I take it as quite certain that the College of Physicians, which has gradually been putting aside its prejudices and electing some physicians practising midwifery to its highest offices, is likely—covertly at first, and later perhaps more openly—to look askance at the claims for the Fellowship of those of its members whose chief work is avowedly surgical. The obvious suggestion to such members will be, Why not seek the Fellowship of the Royal College of Surgeons? And so a divorce may be gradually brought about between midwifery and the Royal College of Physicians. Whether it is judicious for the obstetric physician to extend his work into the domain of external surgery time alone can show. It is true the introduction of antiseptics has done much to minimise the dangers occurring in former days, but still the question we shall have to answer—and answer explicitly—is, Are our antiseptic methods a sufficient safeguard against the possible contamination of lying-in patients by one who undertakes extensive surgical work in addition to obstetric practice? I have been reading a recent contribution on ovariotomy by a careful surgeon, Mr. Malcolm, and I learn from him that notwithstanding all aseptic or antiseptic precautions, one of the chief dangers to the patient is still septic infection, and it was this chiefly which carried off his fatal cases. If this be so, careful as he may be, the medical attendant who goes to a midwifery case, after operating on an inflamed or suppurating ovarian tumour, or its subsequent dressing, or after removing a pyosalpinx, with its some-

times fœtid and infective contents, incurs a grave responsibility. Puerperal patients are much more susceptible of septic infection than the ordinary run of surgical patients. For the accoucheur deliberately to undertake a large amount of surgical work, with all its complications, is surely still further to add to his responsibilities, and perhaps imperil the safety of his obstetric patients. With careful antiseptic precautions there may be a relative safety; but who can say there is absolute safety, more particularly if a busy man has to go hurriedly to a midwifery case after operating on tumours inflamed and suppurating, or after dressing wounds in an unhealthy condition? I sometimes wonder what can be the reason why obstetric physicians wish to become surgeons. The field of work in obstetric medicine is equally interesting, and a mere facility in operating brings no abiding reputation unless conjoined with prudence and with the pursuit of science, which is as open to the physician as to the surgeon. Without this conjunction surgery becomes a mere handicraft. No one would pretend that the work done by Sir James Paget in the operating theatre was likely to enhance his reputation as much as his researches in pathology, or that the operative work of Sir Joseph Lister distinguished him in anything like the amount that his discoveries in antiseptics have done. The truth is that a mere skilful pair of hands, unless dominated by intellectual capacity and a high sense of responsibility, may become potential of more harm than good. But it may be asked what solution can be offered for the difficulty suggested. The answer would be, by appointing a gynæcological surgeon in every general hospital, who shall work in conjunction with the obstetric physician; and in all special hospitals for women have some physicians who do not operate, and who would advise with the surgeons. There is no lack of competent gynæcological surgeons now in this country, and in Paris, which I visited recently, I found a line of demarcation between obstetric medicine and operative gynæcology tacitly assumed. Each man, therefore, should take his choice, but not wish to be both physician and surgeon. I again ask you to pardon me if I have broached a subject in which I may not be in accord with many present. Some may think my views antiquated, but they must admit that they are at least in consonance with tradition, and I venture to think they deserve some consideration, since they are not out of harmony with our present knowledge and the advances of modern science.

The Aseptic and Antiseptic Precautions to be observed in Private Midwifery Practice.

A discussion upon this subject was introduced by Dr. HERMAN, Obstetric Physician to the London Hospital. In his speech Dr. Herman submitted three questions for consideration: 1. What is puerperal fever? This is a fever, he said, caused by the inoculation of septic organisms, which are not the same as saprophytes, but are descended from those which usually are associated with putrefactive changes. Those micro-organisms require a special soil for their development, and the generative passages during and subsequent to delivery offer a suitable field for their growth. Complete sterilisation or the destruction of all micro-organisms is what ought to be aimed at, but it is not practicable in midwifery practice. The second question is therefore naturally put: 2. How can puerperal fever be prevented? We have seen that sterilisation cannot be effected, and try to keep septic germs from the patient. This is to be achieved by asepsis or perfect cleanliness, and by antisepsis or the employment of germicides, and the one that is considered to be the most efficient by the opener of the discussion is corrosive sublimate, it being most portable and, upon the whole, the most trustworthy. The external antiseptic precautions consist of the purification of the attendants' hands by washing with soap and water, the use of the nail-brush, and soaking in an antiseptic solution, the boiling of all instruments used, scrupulous cleanliness in the dress of nurse and medical attendant, and the use of clean absorbent material such as antiseptic cotton-wool instead of napkins and sponges. The internal precautions are the restriction of vaginal examinations to the fewest possible, the washing of the genitals, the use of an antiseptic lubricant and vaginal antiseptic douches during and after delivery and throughout the puerperium. The use of the vaginal douche may do harm, and experience has shown that women whose labours are normal do as well without vaginal douches as with them; but in abnormal cases, as in lacerations or in cases in which intra-uterine investigation is required, not only vaginal but intra-uterine douches are necessary. The third question was, What are the differences regarding the prevention of puerperal fever between hospital and private practice? In answering this Dr. Herman said that in private practice there is less danger, and that antiseptic vaginal douches before delivery and during the puerperium may be dispensed with except in cases in which the discharges are unhealthy or in which extensive lacerations exist. As a general rule the antiseptic douche immediately after labour was advocated and should be given by the medical attendant. In private the nurse, it was averred, received less guidance, for the rules of a hospital are not always before her. To make up for this some obstetric physicians give their nurses a printed paper of directions to be followed during attendance on a given case, and this practice Dr. Herman recommended for general adoption. It was also stated that in private cases the nurse is under less discipline, but in all cases the medical attendant ought to insist on the complete obedience of the nurse to his directions.

Dr. STUART (Brooklyn) endorsed Dr. Herman's methods of aseptic and antiseptic procedure, and asserted that the essentials of antiseptics ought to be known both by medical attendant and nurse.

Professor LUSK (New York) advocates, in order to have as complete asepsis as possible, removal of all the hair from the external genitals. In regard to the employment of the douche afterwards, he considered that it was not only unnecessary but extremely harmful, as it washed away the natural secretions which prevent the germ from developing.

Dr. SMYLY (Dublin) asserted that it is not always necessary to make a vaginal examination, but by external palpation the diagnosis of presentation could be made out, and one of the first considerations was: what are the indications for a vaginal examination, as it is a procedure not free from risk?

The discussion was continued by Dr. SWAYNE, Professors PLAYFAIR (London), BYERS (Belfast), MURDOCH CAMERON (Glasgow), and Dr. MORE MADDEN (Dublin).

Electro-therapy as a Means of Diagnosis in Gynæcology.

A paper on this subject was submitted by Dr. G. APOSTOLI of Paris. It was shown that the faradaic current applied to the uterine cavity relieves ovarian pain of neurotic origin, but it is of little use in ovarian pain, the result of inflammatory lesion of the peri-uterine tissue or of the appendages, and is therefore useful in the differential diagnosis of pain. The constant galvanic current may be used in like manner and in inflammatory conditions of the appendages curable without radical operation the patient will bear the application better and better with a corresponding improvement of the prominent symptoms.

Dr. MORE MADDEN (Dublin) read a paper on Gonorrhœal Infection in some of its Gynæcological Aspects.

Dr. JAMES MURPHY (Sunderland) read a paper on the Surgical Treatment of so-called Puerperal Fever, which created a lively discussion.

PUBLIC MEDICINE.

The business of this section commenced on Wednesday morning by the delivery of an address on Public Health Legislation and the Needs of India.

Address by the President of the Section.

[Mr. ERNEST HART in his opening remarks reminded his hearers that what they said and did at this meeting would, according to its intrinsic merit, be likely permanently to affect public opinion and ultimately the municipal and legislative proceedings of the empire. He expressed the opinion that the metropolis of the world was the most healthy of cities, and he was proud to say that the science, art, and practice of public health administration "is almost wholly British; the other nations of the world have ..... accepted our demonstrations and followed our practice, but for the most part all of them still lag in the rear of British sanitary legislation and administrative practice." After referring to the Public Health Act of 1875, which brought into play principles laid down by Ramsey of Cheltenham, to whom was due the first great conception of the existing scheme of sanitary law, the speaker drew attention to some mistakes in the administration of the Public Health Bill, to which the names of Mr. Stansfeld, Mr. Sclater-Booth, and Mr. Dodson were attached, and pointed out that Mr. Ritchie's County Councils Bill, although it had done something to repair the mistakes of Mr. Stansfeld, had omitted to appoint medical officers to

make the work of the county councils effective. He continued:]

The few words which I have the duty to address to you as utterances from this chair must necessarily be limited to one or two selected subjects from the wide range over which our programme will extend. You will not be surprised if I deal especially with the subject which has so largely occupied my attention for the last thirty years—that of the relation of preventable disease to our water supplies—and if, coming as I do fresh from a study of the health conditions of India, I lay some stress upon the sanitary needs of that great empire, and some of the means of dealing with the most pressing of those requirements. It is now exactly thirty years since I succeeded in demonstrating, to the satisfaction of all authorised sanitarians, that the cause of the great epidemic of cholera of 1866 in the East-end of London was the temporary breaking down of a single pump in the works of the East London Water Company and the temporary disuse of one filter bed. This led to the distribution throughout the East-end of London of water from the River Lee, which had been for a few days polluted by the discharge from the sewers of the house of a family suffering from relaxing cholera, brought from Egypt to this country. That one strange concurrence of pollution and inadequate filtering, produced within a few weeks and within a limited area 16,000 cases of cholera and 6000 deaths.

I ventured to predict during 1892 that however often cholera should be landed in this country it could never become epidemic owing to the improvements in our water-supply, but that it must be limited to sporadic outbreaks in towns, ports, and rural districts into which it might be imported and where the water-supply is impure or inadequately protected. I by no means claim the exclusive credit of having preached and proved the doctrine that cholera is a purely water-borne disease, due to the tainting of our water-supplies with sewage; that doctrine was first laid down by Snow, of whom I was the convinced apostle. It was illustrated by Simon with all his wealth of quaint eloquence, but even until a late date it was doubted and denied by some of the most eminent authorities, and the official utterances of the Royal College of Physicians at no distant date were to the effect that it was not probable that in the case of cholera the influence of water will ever be shown to consist in its serving as a vehicle for the poison generated in the bodies of those who had suffered from the disease. The theory that cholera is wholly, essentially, and universally a water-borne disease is now becoming commonplace in Europe at least, although it is still ignorantly resisted in India, to the great peril and sacrifice of hundreds of thousands of lives of our fellow subjects. But even in England our water-supplies are still in too many places scandalously and dangerously tainted, and the result is shown in that prevalence of typhoid fever which is, as I contend, not less surely and inevitably traceable to a polluted water-supply than is cholera itself. Indian sanitation is not a scientific but an official system. There does not exist there any independent medical opinion. The oldest men in the service are the highest in official position. Their ignorance is the standard by which their juniors are bound, their prejudices become a despotism and their follies a tyranny. It was for a long series of years as much as a man's promotion was worth to dare to avow the opinion that cholera was a water-borne disease, and that it was carried from place to place along the lines of human communication. The idea that it was spread and diffused by great concourses of people becoming infected by the sewage-tainted water of religious festivals was treated as not only a folly, but an offence. The two things may be concurrent, said an eminent official, but it is a wild absurdity to treat them as cause and effect. This gentleman still holds high office at an advanced age, and it was he who was sent from the India Office to represent this country at the recent Conference on Cholera in Paris

[The speaker then referred to the army medical regulations for the management of cholera, which he characterised as a discreditable and dangerous document, and spoke of the discouragement of sanitary studies by the Government of India and the overloading of inconsistent duties. In conclusion he said:]

Two things struck me in India—the remarkable ability, the enormous power of work, and the excessive overwork of the Indian medical officers, the terrible servitude which enforces on them the attempt to perform a vast mass of duties which cannot be performed, and the lamentable results of the domination of really able young officers by effete, ignorant, and worn-out superiors who have risen by mere seniority to positions which scientifically and administratively they are quite incapable of fulfilling, by reason of their age and of the antiquated state of their information, if even many of them had ever possessed at any time the qualities or the inclination necessary for such posts. Worst of all, perhaps, is the elevation to the very highest offices, by mere lapse of time and military rules of promotion, of men who are most capable of fulfilling routine duties, but are wholly unfitted to be trusted with the administration of the health and lives of the vast population depending on us in India. What is urgently needed is a Royal Commission, or strong Departmental Committee, to inquire into this whole matter, and to institute a radical change. For at present India is decimated by wholly preventable diseases; the health of our troops is ruined by the same causes. With us lies the reproach of nursing and fostering cholera in what is called its endemic home—a purely ignorant and silly phrase. Until some great change is made in the whole system and of the administration the great sanitary needs of India will never be met. You will pardon me for occupying you with the subject which may seem to be in part foreign to our immediate work, but which is of vast moment to the health of a great population in our Indian dominions.

The Regulation of the Slaughter of Animals for Human Food and the Inspection of Animals before and during Slaughter.

Dr. T. M. LEGGE, in opening the discussion on the Regulation of the Slaughter of Animals for Human Food and the Inspection of Animals before and during Slaughter, said that in his opinion a person who had qualified both in medicine and veterinary science would have been the one most suited to have done so. His only claim to undertake the task was that he had devoted some attention, in the principal capitals of Northern Europe, to the methods adopted for the inspection of meat. Great Britain was in the matter of meat inspection twenty years at least behind Germany, France, Belgium, and Denmark. The explanation was to be found in the fact that veterinary science was at a higher level abroad than in this country, partly because the veterinary colleges there were State supported, and partly because more opportunity was given to veterinary surgeons in the practice of their profession by the numerous appointments given to them as experts on meat. Then, again, public abattoirs having existed for a considerable period of time abroad the need of a scientific control of the animals slaughtered in them had been more felt. The first point he would lay stress on was the necessity for compulsory powers to close private slaughter-houses and to the erection in their stead, in all towns of more than 5000 inhabitants, of public abattoirs. An occupation such as the slaughtering of animals, that was in many of its details revolting, and which might lead if proper care were not taken to grave nuisance, ought to be concentrated as much as possible. The advantages to be gained from centralising this and all the various processes incidental to it—such as gut scraping, fat melting, the extraction of the albumen from blood, &c.—far outweighed in his mind the objections urged on the other side by the butchers. The credit of having introduced public slaughter-houses in France must be attributed to Napoleon I. In Prussia the law of 1868, supplemented by that of 1881, gave the powers to local authorities to compel the butchers to close their private slaughter-houses and slaughter only in the public abattoirs, and making it at the same time a punishable offence to introduce into the city from outside fresh meat without first submitting it to an expert for examination.

After describing very briefly the abattoirs abroad with which he was most familiar (as Paris, Brussels, Berlin, and Copenhagen) Dr. Legge proceeded to the second main point—namely, the necessity for appointing professional meat inspectors, preferably from the ranks of veterinary surgeons, to replace the untrained persons at present charged with the work. He would prefer to leave to the veterinary inspector-in-chief the final decision as to what meat should be condemned or not, rather than to the medical officer of health and a justice. Abroad, as soon as the principle of meat inspection was recognised there never was the least doubt that the persons best qualified to undertake the work were veterinary surgeons, and, speaking generally, in all large towns in France, Germany, and Belgium such persons were the only experts legally recognised on the

subject. Reference was made to the sub-inspectors in Belgium and to the examinations they were obliged to pass. An outline was given of the routine method of inspection adopted at the abattoirs abroad and at the stations where the carcases of animals slaughtered outside the town were examined. He then called attention to the unsatisfactory state of the law in Great Britain under which the condemnation of diseased meat was made, and dwelt on the law dealing with the subject in Germany and France. In Germany the Imperial law of 1879 on "the Trade in Food Stuffs" recognised only two kinds of bad meat—(1) that which was injurious to health (*gesundheitsschädlich*); and (2) bad or spurious (*verdorben*). The local regulations, however, that were adopted in such towns as had suppressed private slaughter-houses went much further and chiefly determined the action of the veterinary inspector. Under them the second division of bad (*verdorben*) meat became further divided into—(*a*) meat that was bad in the ordinary sense of the word, and to be treated therefore as equivalent to injurious to health; and (*b*) meat that was bad, but not so bad that it might not be utilised as food, provided its condition was marked as being either "of diminished value" (*minderwertig*) or "defective in quality" (*mangelhaft*). The regulations with regard to tuberculous meat had been considerably modified in Germany by a Ministerial decree issued in 1892, which allowed greater latitude in the consumption of such food. The most important points in it were: 1. The meat of tuberculous cattle must, as a rule, be regarded as dangerous to health (and therefore be condemned) when the muscular tissue contains tubercles or when the animal is wasted, even though no tubercles are found in the muscles. 2. The flesh of tuberculous animals must not be regarded as injurious to health when the tubercles are found—(*a*) exclusively in one organ, or (*b*) when two or more organs being affected, they lie, in the same cavity, and are not connected with one another by lymph channels or by bloodvessels belonging to the systemic circulation. Such meat is to be regarded as of first quality and to be sold without any restrictions. The importance of the regulation is seen when it is recognised that section 2 includes about 65 per cent. of all tuberculous animals. Stress was laid on the way in which tuberculous meat was rendered absolutely sterile by steam cooking in the Rohsbeck steam ovens at Berlin. The absence of reference in the reports of medical officers of health to the diseases on account of which meat was seized was mentioned, and attention drawn to the admirable statistics on this subject in the report of the Berlin abattoir. In conclusion, he referred to the report of the Royal Commission appointed to inquire into the effect of food derived from tuberculous animals. It was a matter for great regret, he thought, that the terms of that inquiry did not permit of any report being made as to the administrative procedure available for reducing the amount of tuberculous material in the food supplied by animals to man. Seeing what was being done in Denmark, chiefly through Professor Bang's efforts, in employing tuberculin as a means of diagnosing tuberculosis in cattle, he believed that the matter could not be left where it was, and he hoped that another Royal Commission would be appointed to inquire not only into the preventive measures to be taken against tuberculosis, but the terms of which would be such as to include the whole question of meat inspection.

Dr. H. R. SYDNEY MARSDEN, speaking on the same subject, said that the consideration of the subject naturally divided itself under three heads, namely—(1) treatment of cattle before slaughter, lairage accommodation, &c.; (2) method of slaughter and dressing of animals; and (3) treatment and inspection of the carcase after dressing. Animals should be brought to the slaughter-house as quietly as possible. Proper lairage accommodation should be provided, in the form of enclosed sheds, with good top light and ventilation (side ventilation was too cold in the winter months). The surface of the floor should be flagged and channeled, with a good fall from the head to the rear, so as to keep the standing always dry, and all drains should be outside the building. There should be a plentiful supply of water. The animals should be poleaxed and pithed without delay, stuck immediately after pithing, and the body well bled. All carcases and offal should hang in a properly ventilated, light, clean, and cool cooling-house for twelve hours after slaughter. Most diseases showed themselves at once, and it was important that the meat inspector should see the diseased parts before anything had been done to them to alter their appearance. But there were cases in which the disease was more noticeable after the carcase and offal had cooled; it was therefore important that they should be inspected both before and after cooling. The following diseases showed themselves at once: tubercle, pleuro-pneumonia, peritonitis, anthrax, cystic disease of the kidney, abscesses, Texan fever, swine fever, and puerperal fever; but the disease showed itself more distinctly after cooling as regards colour, smell (or both), &c., in the following cases: Texan, swine, and puerperal fevers, jaundice, most diseases of the kidney, and inflammations generally. A word should be said about the freezing of carcases. No carcase should be put into the refrigerator until properly cooled, the freezing process should then be gradual and not too great, otherwise the carcase sweated again on exposure.

Dr. JOHN F. J. SYKES (medical officer of health for St. Pancras) said that diseased meat must be prevented from being distributed for food. This applied equally to home-killed dead meat and to imported dead meat. The best time to judge of the health of food animals was at the time of slaughtering, when they could be examined during life as well as after death, but above all when the internal organs could be examined together with the carcase and at the same time. In order to facilitate the inspection of home-killed meat the aggregation of slaughter-houses was desirable. In spite of precautions it would be possible to foist upon the market meat of animals dying of disease. In order to prevent this and to take away the inducement to profit by the sale of diseased meat it would be necessary to institute—(1) the systematic inspection of milch cows at periodical intervals by veterinary inspectors; (2) the purchase at public expense of diseased animals and meat before exposure for sale at a price that would materially relieve the owner from bearing the whole loss—in other words, paying compensation; or (3) failing the adoption of this course the compulsory examination and marking of all meat and the prohibition to sell meat without the recognised token or mark.

Surgeon-Major POOLE, M.D. (Norwood) supported Dr. Legg's paper. He entirely objected to private slaughter-houses.

Dr. HILL (Birmingham) advocated the abolition of private slaughter-houses, which were centres of filth and disease, contaminated the sewers, and also enabled the dishonest butcher to hide away carcases which ought not to go into the market.

Dr. SLADE KING, Surgeon-Major PRINGLE, and others followed.

Dr. SYKES submitted a resolution which had for its object the marking of foreign meat; but after some discussion, on the motion of Dr. NEWSHOLME (Brighton), the following was passed as a substitute: "That, in the opinion of this Section, and in view of the fact that the Royal Commission on the Effect of Tuberculous Food on Human Health by the terms of their appointment were restricted to tuberculosis, it is desirable that a Royal Commission be appointed to consider the whole question of meat-supply and inspection. That a copy of this resolution be sent to all the Ministers of State."

The late Visitation of Cholera in Hungary.

Dr. EUGENE FARKAS, District Superintendent of Public Health, Budapest, read a paper on this subject. He said that the cholera epidemic which reached Europe in 1892 had been three times imported into Hungary, in each of the years 1892, 1893, and 1894. In 1892 the Government early in the summer made strenuous efforts to prevent the importation of cholera. Travellers and their baggage were submitted to medical inspection and restrictions were made touching the importation of goods from infected countries, which caused much injury to commerce and trade. In spite of these measures the cholera arrived in Budapest towards the end of September, and there was also a considerable extension in Hungary which followed mostly the course of the rivers. The experience of the cholera in 1892 proved that the restrictions which nearly annihilated commerce were useless. The Hungarian Government abandoned a great part of them in November, 1892. There was also a marked change in public opinion as to the usefulness of general sanitary measures which were formerly neglected. A great many sanitary improvements were carried out, and in this the panic due to the cholera in 1892 had a very great share. So that the epidemic of the year 1893, although imported early in the summer, did not attain great dimensions. In 1894 the cholera was again imported into Hungary, this time to the county of Máramaros. The epidemic lasted here 107 days,

but with the exception of this county could not establish a footing in Hungary. Any success could not be expected except by means of general sanitation, as was pointed out by Sir John Simon thirty years ago.

Dr. DUKA congratulated Hungary in having appointed Dr. Farkas, who was acquainted with the ideas of English medical officers of health, to the position of District Superintendent of Public Health of Budapest.

Sewer Ventilation.

Mr. J. PARRY LAWS then introduced a discussion on Sewer Ventilation in a speech in which he showed that the results of modern research have not only enlarged our knowledge of the causation and propagation of infectious diseases, but they have also in many instances shown that the exciting cause of the diseases—namely, the specific micro-organisms—pass out of the body with the bowel discharges, and so gain access to our underground sewers. These facts have imparted to the subject of sewer ventilation a significance and importance unknown in earlier times. To find a thoroughly satisfactory solution to the question, Is sewer air harmless or otherwise? and, If harmless, its mode of action? is of great moment to hygiene, for our attitude with regard to this all-important question must of course be profoundly influenced by the conclusions at which we ultimately arrive. The injurious effects which have been, and still are, attributed to sewer air may arise from three separate and distinct causes:—1. From poisonous inorganic gases, such as sulphuretted hydrogen, and concomitant diminution of the percentage of oxygen in the sewer air. 2. From the organised constituents (the micro-organisms) of sewer air. 3. From the presence of some volatile and highly-poisonous organic compound or compounds, possibly of an alkaloidal nature. Although the hypothesis which regarded sewer air as capable of disseminating the morbific germs of disease is proved beyond reasonable doubt to be an erroneous one, we must not therefore forget the immense benefits and the saving of life that modern sanitation, mainly influenced by this hypothesis, has brought about. Whatever the ultimate verdict be, whether sewer air is harmless or otherwise, it will always be the imperative duty of those charged with the care of the public health to ensure rapid and efficient removal of all sewage and refuse matter, and above all to guard against defective drainage and probable pollution of water supplies. The more light that is thrown upon the dissemination of those diseases which have been erroneously associated with sewer air, the more evident does it become that a polluted water supply, and, as an incidental result, a polluted milk supply, are among our most insidious foes.

Mr. NEECH (medical officer of health for Atherton) related some experiments made on sewers of ordinary size to test the movement of air in sewers. In the experiments on one sewer it was found that when the flow of sewage was very small air moved upwards, while when the flow was larger it moved downwards. In another experiment it was found that the velocity with which the smoke introduced into the sewer moved increased directly with fall of the sewer and the velocity of a body of water passing down the sewer. The question, Mr. Neech continued, might be asked, Ought sewers to be ventilated? A sewer with good even and self-cleansing gradients with perfect air- and water-tight joints and connexions, with house drains efficiently disconnected therefrom, and constructed in a district where there was no possibility of subsidence, probably needed no ventilation other than a few 4 in. pipes at suitable points carried high up into the air to let off any undue accumulation of gases, and equalise internal and external pressure. The conditions connected with many of the older sewers were different. Often they had gradients and were not self-cleansing. They had defective joints and connexions which allowed sewer air to pass into the subsoil, especially when of a gravelly nature; not being able to escape through the surface of paved streets, it tended to be drawn into the basements of houses. There were many drains connected with old sewers the existence of which was unknown, and many others the course of which was uncertain. The joints of such drains were very defective; they often ran near and even beneath houses, and occasionally the sink waste water pipes of some of the older houses were found connected directly thereto. Such a sewer should be ventilated.

Were it possible to extract sewer air with heat and burn it, that doubtless would be the most effectual means of dealing with it from a sanitary point of view, but this appeared not to have been found practicable for general application. A sewer in which the air constantly moved upwards should have the valves inserted at that side of the manhole at which the sewage left it. Then the air moving upwards would escape through the ventilators in preference to the manhole. Valves were useless where the movement of sewer air was variable, but in these cases the air could be filtered as it passes out of the sewer at the street level.

The discussion was continued by Dr. Davies (Plumstead), Dr. Oldright (Canada), Dr. Haughton (Norwood), Dr. Bond (Gloucester), Dr. Groves (Carisbrooke), and Dr. Hill (Birmingham), who thought that sanitarians should direct their attention more to the construction of the sewers. If plenty of oxygen were admitted it did not much matter whether they were ventilated above or upon the ground.

Underground Bakeries.

A joint paper by Dr. F. J. WALDO and Dr. DAVID WALSH was then read dealing with the subject of Underground Industries, with special reference to the Baking Trade in London. The tendency, they said, of civilised communities to flock towards particular centres of population has led to a vastly enhanced value for town lands. Hence the builder, wishing to make the most of his site, not only soars into the sky, but also burrows into the earth. By the London Building Act of 1894 Government laid down certain regulations as to the height of houses outside the City proper. The Legislature, however, has not dealt with underground rooms, except when they are used for dwelling purposes. The main object of this paper is to inquire whether underground rooms can be converted into wholesome workshops. The attention of the writers has been drawn to the subject by an investigation of underground bakeries. Most of these places are nothing more or less than cellars and quite unfitted for workmen. In London, and no doubt in many of the large towns throughout the United Kingdom, many cellars and basement rooms are quite as improperly used as workshops. Until a rigid system of house-to-house visitation is the rule it seems likely that ninety-nine out of every 100 underground workshops will escape any control altogether. After careful consideration the writers have come to the conclusion that an ordinary cellar can be converted into a wholesome workshop. It is true that such a task would involve a good deal of structural alteration and a considerable outlay of money. Among essential points of construction are a height of 8 ft. and minimum of 500 cubic feet for each workman, with a special allowance for gas-jets. Walls must be smooth and kept dry by damp-proof courses and by freedom from contact with outside soil. The window space must equal at least one-eighth of the floor area. Ventilation and light, as well as drainage and lavatory accommodation, must be such as to satisfy advanced modern requirements. The floor must have at least 9 in. of concrete, and any drains passing beneath it must be laid at least a foot deep and cased in a bed of concrete. Water should come from the rising main. In order to make a wholesome basement workshop the writers regard a front outside area as absolutely essential. Further, they would make a second area compulsory, either at the back or the side of the building. The main practical difficulty in satisfying these requirements would no doubt be the making of an area in houses which rise flush from the pavement. In order to meet this objection the writers have devised the scheme of the "borrowed area." The front of the shop is to be carried back some 5 ft. or 6 ft. and an area sunk in the space thus "borrowed," as it were, from the overhanging main building, which is supported by a cross girder. The outside area is thus gained at the expense of a part of the shop and of the basement. The size of the shop is thereby lessened, but by way of makeweight the basement beneath is converted into a light and habitable room.

Dry Methods of Dealing with Urine.

Dr. G. V. POORE, Professor of Medical Jurisprudence and Clinical Medicine, University College, London, then read a paper the object of which was to show how different was the behaviour of urine when mixed with absorbent material to that which it manifested when it was mixed with water or left unmixed with anything. Dr. Poore's experiments went to show that when mixed with absorbent material and exposed to the air it never became offensive, notwithstanding that a good deal of ammonia was developed. He showed a conical flannel bag, 2 feet 6 inches long and 1 foot in diameter at the base, which was filled with about

six pounds of dry deal sawdust on May 29th, 1894, and which had stood in his room at University College ever since. Between May 29th and July 26th, 1894, over 39 pounds weight of urine was added to the sawdust. Very little urine was added between July 26th, 1894, and May 1st, 1895; but between May 1st and July 30th, 1895, about 45 pounds weight of urine was added. Notwithstanding that the flannel bag had become so rotten that it would scarcely hold together, the mixture of sawdust and urine was not in the least offensive and had never made its presence in the room felt by any unpleasant smell. Of the 84 pounds of urine added, only 6 pounds had been returned as filtrate, while about 68 pounds had been evaporated or retained. The filtrate had been dark brown, thick, and of high specific gravity, but had never been offensive nor had it shown after lying about for months any tendency to putrefy or become offensive. The sawdust, the urine added, and the filtrate had been analysed by Dr. Kenwood. The results of filtration through other materials, such as earth, cinder and ashes, old stucco, peat-moss litter, and crumpled paper were also given. The results as regards the absence of offensive smell were identical with the above in the case of earth, stucco, and peat-moss litter. When fresh earth, fresh stucco, and fresh ashes were used the filtrate was almost colourless and odourless, but the power of ashes to give this result was short-lived, and after the ashes and cinders had become soddened the filtrate became strongly ammoniacal and offensive. The filtrate from peat was dark-coloured but clear (not thick like that from sawdust), and never offensive. The crumpled paper at first gave a very offensive filtrate, but when it got fairly soaked and really absorbent all offence ceased. The paper became in the process of drying riddled with a fungoid growth (saccharomyces and penicillium), and gradually dried up to a material scarcely, if at all, to be distinguished by the eye or nose from ordinary garden earth. The explanation of the above facts was, in Dr. Poore's opinion, doubtful. It was probable that in the case of deal sawdust and peat the antiseptics contained in these bodies might have had some effect. In the case of the other bodies it was probable that microbial action might have produced the result. As far as he was able to judge from limited experience, sawdust that had been thus soaked with urine became a valuable manure. In contrast with the above a sample of urine which had stood in a glass beaker lightly covered with paper since January, 1895, was exhibited, and was shown to be intolerably offensive.

The Section then adjourned.

PSYCHOLOGY.

This Section met in one of the rooms on the second floor of the Examination Hall, Victoria Embankment, and was presided over by Dr. MICKLE, whose work in connexion with the association of insanity with morbid cardiac conditions, as well as his treatise on general paralysis of the insane, are well known to all who are interested in psychology and the morbid associations of insanity.

Address by the President of the Section.

The Section was opened with an address by the PRESIDENT. After extending a cordial welcome to the members of the Section, he gave a brief account of some recent laborious but highly interesting work on which he has been engaged with reference to abnormalities occurring in the form and arrangement of brain convolutions. It was first pointed out that the figures in many of our text-books are really taken from patients who, from the fact that they had died in infirmaries or State-aided institutions of some kind, might, at least in the majority of instances, be placed in the category of "incapables." He then proceeded to point out various points in which he had found the brains of the insane to be peculiar. These peculiarities, which chiefly consisted in differences in the size and form of the convolutions, were found to be more frequent on the right side than on the left, and the variations were described as occurring in various cortical regions. Care was to be taken in drawing inferences from data confessedly not complete, but on the whole it seemed to be clearly indicated that neglecting cases of insanity in which the tendency to degeneration may be present certain changes in the form and arrangement of the convolutions of the brain in the insane may be found to occur, possibly with some degree of significance in relation to the kind of mental change present.

The Treatment of Melancholia.

A discussion on the Treatment of Melancholia was opened with an exhaustive paper by Dr. HENRY RAYNER, lecturer on psychology at St. Thomas's Hospital. After enumerating the various modes of treatment, an opinion was expressed that open air treatment, with exercise short of actual fatigue, was desirable. Various points of interest were touched upon, and especially in regard to treatment by hypnotics; the author expressed his opinion of their perniciousness, given in a routine way. Considerable stress was also laid upon the desirableness of measures for prophylaxis being taken, especially in those who might inherit some tendency towards mental depression. Regularity in all different ways, especially as regards food, was insisted upon, and also the importance of muscular, even more than of mental, training.

The PRESIDENT conveyed the thanks of the meeting to Dr. Rayner and briefly alluded to a few points raised in the paper.

Dr. BLANDFORD, in criticising the paper which had been read, remarked on the great difficulty of laying down any rule as to the treatment of this disease on account of the different degrees in which it may affect different patients or even the same patient at different times. He expressed a strong opinion against the haphazard way in which patients suffering from melancholia are sent for sea voyages, more especially by those who have never been a sea voyage themselves, and pointed out the almost tempting allurements to suicide which such a voyage would offer. He expressed dissent from Dr. Rayner's view as to hypnotics, regarding them not only as useful but even essential in some cases.

Professor BENEDIKT directed attention especially to cases of melancholia occurring in the female. He also regarded the danger of the acquisition of drug habits as a real one in such cases. He attached importance to electro-therapy in this condition, and to the administration of very minute doses of cocain.

Dr. WEATHERLY laid much stress upon the necessity of having attendants for such cases, capable of gaining and keeping the confidence of the patient. He also uttered a warning against going beyond the "fatigue point" of a patient in the endeavour to give sufficient exercise, and alluded to the frequent presence of some peripheral source of irritation—e.g. hæmorrhoids, and such like—in many cases of melancholia.

Dr. NORMAN KERR alluded to the frequency with which alcoholic indulgence was found in the subjects of melancholia; but he attached much importance to finding the proper food for the individual, and mentioned the case of an old gentleman of eighty-five, without any alcoholic habit, who was always cured of his recurrent attacks of melancholia by the administration of peptonised milk.

Dr. CLOUSTON, after complimenting Dr. Rayner on his excellent paper, alluded to the cause of melancholia as probably a defect in the katabolic processes of the cell, leading to an undue instability in the mental sensory cell. In illustration he instanced a case of a patient frequently but instantly rescued from melancholia by the administration at once of one-eighth of a grain of morphia.

Dr. BATTY TUKE expressed his belief in the efficacy of rest in bed in these cases, and was of opinion that the morbid state of the nerve-cell was not necessarily primary, but might be secondary to a disordered vascular condition.

Dr. NICOLSON also thought that a refusal to allow the circulation some part in the causation of this disease would be a mistake. He referred to the extremely salutary influence which the convalescent patients in the hospital at Broadmoor had upon patients sent there suffering from melancholia.

Dr. DUNBAR in her remarks dwelt particularly on the difficulty that meets the practitioner in dealing with cases in the early stage on account of the ignorance of ordinary physiological laws present in the general public.

Dr. RAYNER replied to the various points raised.

Mental Symptoms in Exophthalmic Goitre.

Dr. MAUDE next read a paper on Mental Symptoms in relation to Exophthalmic Goitre, pointing out that while actual insanity with this disease was rare, a certain degree of mental change—motor restlessness, insomnia, occasionally illusions, with incapacity for mental application, and loss of memory—was almost always present. His deductions were made from observations on twenty cases.

Dr. E. S. REYNOLDS read a very interesting paper on the Mental Symptoms of Bodily Diseases, detailing the various mental states found in association with diseases of the brain, spinal cord and viscera, as well as in those produced by the presence of organic or inorganic poisons.

Mr. HENRY HEAD also read a paper on Mental Symptoms

in relation to Bodily Disease in the Sane. From his observations it appeared that visceral disease was associated with cutaneous tenderness and frequently with tenderness in different scalp areas; and there seemed to exist some more or less constant association between the area of scalp affected and the accompanying mental change.

A short discussion then took place on these three papers, in which their great interest and importance were alluded to. Dr. CLOUSTON, Dr. YELLOWLEES, and others took part in the discussion.

PHYSIOLOGY.

Address by the President of the Section.

Dr. DAVID FERRIER, Professor of Neuropathology in King's College, and Physician to King's College Hospital, delivered an address on the Relations of Physiology and Medicine. He commenced by mentioning that he held the position of a physician rather than that of a physiological specialist, and continued:—

In former days few, if any, would have been found prosecuting the study of physiology who were not also engaged in the actual practice of medicine or surgery. Things, however, have greatly changed. Owing mainly to the division of labour, which the progress of knowledge has rendered a necessity, physiology has become increasingly technical, and tended to separate itself more and more from medicine in its practical aspects. Hence there has grown up, more perhaps in other countries than in our own, a generation of physiologists who have little interest or sympathy with the practitioners of medicine; while we have still, and always have had, a class of practitioners who, though acknowledging physiology to be one of the institutes of medicine, say farewell to its problems and methods when once they have passed their examinations and engaged in the practical work of their profession. In both extremes there lies great danger to the best interests of the science of physiology and the science and practice of medicine. The practice of medicine offers not infrequently rare conjunctions of symptoms, and valuable opportunities of research, too often wasted, which a little physiological training on the part of the practitioner might often have turned to good account; and the necessities of practical medicine have been the most fertile source of inspiration of physiological experiment. Much of what might otherwise have remained as vague surmise or, at most, plausible hypothesis has been raised to the level of verified fact by well conceived and often simple physiological experiment. The experimental method is, as it were, the keystone of the arch; indispensable, indeed, to the security of the structure the foundations of which have been laid in clinical observation. In many—perhaps I ought to say most—departments of physiology the experimental method is the most powerful weapon of inductive elimination, but there are problems in the investigation of which the clinical method is indispensable. For instance, almost the whole of our knowledge of the so-called trophic influence of the anterior cornua on the muscles, has been arrived at by clinical observation on the symptoms of anterior poliomyelitis and progressive muscular atrophy in man; and on similar observations has been largely founded our knowledge of the segmental grouping of muscles in the spinal cord, which has only been rendered more precise by experimental research. On clinical research primarily, and to a large extent solely, rests much of what we know respecting the paths of degeneration in the nerve centres inaccessible to the experimentalist, but often within the reach of the morbid processes of disease. The physiology of the ductless glands—namely, the thyroid, the suprarenal capsule, and the pituitary body—rests, for the most part, on clinical research, by which was first established the probable relation between abnormal conditions of these glands and the dystrophies of myxœdema or cachexia strumipriva, Addison's disease, and acromegaly respectively. Of recent work done in this country, I know of nothing more worthy of mention, or which serves better to illustrate the mutually complementary relations of experimental physiology and clinical medicine to each other than the researches of Head on the one hand, and those of Gaskell and Sherrington on the other, in reference to the segmentary relations of the visceral and somatic nerves of the head and body. [Professor Ferrier concluded with a sketch of the results of these two observers, making especial reference to Head's determination of the zones of the head and neck, which are the seat of somatic reference of irritation of the thoracic and abdominal viscera innervated by the vago-glosso-pharyngeal splanchnic nerve.]

Dr. W. H. RIVERS exhibited a Reaction Time Apparatus, by means of which touch and mental associative reflexes could be measured.

Professor DE BURGH BIRCH then entered into considerable detail in describing the Equipment of an Experimental Laboratory, and exhibited apparatus ingeniously modified in some respects from those in general use.

The Results of Section of the Trigeminal Nerve.

Dr. ALDREN TURNER then read an interesting paper on the Results of Section of the Trigeminal Nerve and the consequent Degenerations. The conclusion of practical importance at which he had arrived was that there was no evidence of the Gasserian ganglion having a trophic influence upon the eye, and that, therefore, notwithstanding occasional accidents, its removal need cause no anxiety so far as the nutrition of the eye was concerned. Clinical experience supported this view.

Dr. MOTT and Dr. SHERRINGTON, who joined in the discussion, agreed with Dr. Turner, and the former had found that on animals whose spinal cords were experimentally destroyed ulcerations occurred upon the hind legs but not on the forelegs. This fact he attributed to the less protected condition of the legs and their greater liability on this account to microbic infection.

The Results of Lesions of the Tuberculum Rolandi.

Dr. ALDREN TURNER then further discussed the Results of Lesions of the Tuberculum Rolandi, and illustrated his remarks with lantern slides of sections of the cord at various levels. His results tended to prove that lactile and pain sensations were transmitted by different routes; he aided his contention by reference to a clinical case, and showed a series of slides exhibiting the results of total and partial removal of the cerebellum. Dr. Ferrier and he had found a zone of degeneration in the antrolateral part of the cord after removal of the cerebellum and also a comma-shaped tract of degeneration after removal of one side of that organ.

Dr. ALEXANDER BRUCE of Edinburgh discussed the paper, and remarked that the tracts indicated were demonstrable in the cord of the fœtus.

The Function of the Spleen.

Dr. WILLIAM HUNTER then read a paper on Experiments relating to the Functions of the Spleen. He had used tolulin diamide as a destructive agent in doses of three strengths, and found that in the case of animals in which the spleen was not removed there was evidence of blood destruction in the spleen, splenic vein, and portal vein, while the general venous system was practically unaffected; while in animals in which the spleen had been removed there was little or no evidence of blood destruction in the veins above mentioned, but some evidence of this change in the mesentric veins, the lymphoid structures related to the latter evidently assuming the *rôle* of the spleen.

The paper led to some discussion, in the course of which Dr. Hunter was asked for an explanation of the phenomena he had described, but beyond suggesting that it was probably the result of splenic cellular activity declined to speak more definitely. He considered the action of the destructive agent was indirect.

Dr. MELLUS showed a large series of descending degenerative changes in the brain and spinal cord after removal of a portion of the cerebral cortex at the inferior genu of the fissure of Rolando.

Dr. EDRIDGE GREEN read a paper on The Perception of Luminosity at different parts of the Retina, and endeavoured to prove that the effect of light in the retina was not confined to the spot on which it falls.

A short discussion ensued.

Dr. MARINESCO, who spoke in French, then related his views on Tertiary Atrophy and Regeneration of the Central Nervous System. He advanced a theory of reflex mechanism in explanation of such lesions, and illustrated his remarks by interesting sections of the spinal cord, which exhibited an unilateral and comparative atrophy of all the elements in the affected half.

Dr. SHERRINGTON discussed the paper.

The Section then adjourned.

ANATOMY AND PHYSIOLOGY.

This section was presided over by Mr. HENRY MORRIS Surgeon to the Middlesex Hospital, who, after a few well

chosen words, called upon Mr. William Anderson to open a discussion upon:—

Art in its Relation to Anatomy.

Professor ANDERSON commenced by saying that anatomy owed a heavy debt to art, although he might also say that art owed an almost equal one to anatomy. But before anatomy was studied as a science the great masters of Greek sculpture, without any aid from dissection, produced works which were masterpieces of artistic beauty and anatomical correctness, although while sculpture had advanced to such a pitch medicine and surgery were still in a purely empirical stage. Illustrations of some of the great Pheidian statues were thrown upon the screen. The lecturer passed on to consider the decline of classical learning and art, and after mentioning the mediæval treatises on anatomy, which were illustrated in a way from dissections of the lower animals, came to times when anatomists employed the great artists to illustrate their works. Leonardo da Vinci executed a series of anatomical drawings for his own improvement. The work of Berengarius was touched upon, and then came the immortal work of Vesalius, illustrated by a pupil of Titian. Professor Anderson then mentioned the anatomical works of the seventeenth century in the illustrations to which anatomical correctness was subordinated to the debased art of the day. The figures were represented in various affected attitudes standing on pedestals in pseudo-Italian landscapes, holding aside their skin or muscles to show the internal organs. After this, the bathos of both anatomy and art, came the works of Cheselden and William Hunter, the latter of whom wrote the classic work on the anatomy of the gravid uterus. Professor Anderson then briefly referred to the modern methods of anatomical illustration, such as chromo-lithography and "process work."—Mr. HENRY MORRIS then moved a vote of thanks to the lecturer, which was unanimously carried. A large collection of ancient and modern illustrated works on anatomy were on view, the most striking of which was the great treatise of William Cowper, with copper plates by Gerard de Luirens.

PATHOLOGY.

Address by the President of the Section.

Dr. WILKS, Consulting Physician to Guy's Hospital, in a paper on Reparation, said:—

The most evident and most momentous fact in Nature is the incessant change ever going on in the world; in fact, throughout the universe as far as the power of the telescope and spectroscope can reach motion and action never cease. This endless activity in the organic world implies continual growth and decay, or, in other words, life and death. As the earth in its revolutions produces the seasons, so we witness living objects growing up under the influence of the sun's rays, and again decaying as the warmth departs. The higher animals take a few revolutions round the centre of heat, during which time they first grow and then decay; and one of these is man. The variable time in which he endures is determined in great measure by his surroundings, for many of those which are detrimental to him and shorten his days are quite obvious to us; and to study still further his environments and discover their influences for good or evil is one of the most important provinces of the physician. Now just as the body grows and decays as a whole during a term of years, so we may see the two processes of production and destruction going on in its several parts when subjected to any special stimulus, such as an injury or other morbid influence. It is to this subject I wish to draw your attention, for although my own mind has often been directed to it, I think in all that I have written and taught I have failed to lay sufficient weight on the distinction between them. When speaking of any unnatural condition or any adventitious substance found in the body, I have, like many others, employed the term "morbid," and been content with the expression, whereas a little further consideration would have shown that only a portion of what is found would rightly answer to the term, a part only being strictly pathological, whilst the other is a result of a true physiological process; in fact, the simple words disease or morbid imply too much of destruction without a recognition of a corresponding reparation. With regard to injuries, the reparative and conservative conditions are generally clear, witnessed in scars, or where a spine of bone is made to support the fractured shaft of a limb which is united at an angle. In many forms of internal disease, also, we all recognise the reparative process, and have no difficulty in distinguishing the physiological from the truly pathological; for example, in valvular disease of the heart—where we at once perceive how the hypertrophied cavities, are the manifestation of physiological and conservative processes, and in the same manner hypertrophy of the muscular fibre of the uterus, of the intestine, or of the bladder, indicate obstruction in the passages of these organs. There are, however, more complex states where the pathological and physiological changes have gone on side by side and thus make it more difficult to assign to each their due proportion. It may be that the constructive and destructive forces are more intimately associated than we have hitherto conceived, and that a mutual relation may exist between them of an electrical or chemical nature. This was suggested in the remarkable observations and experiments of the Golding-Birds, father and son, who showed that if one electrode be placed on an ulcer the latter will rapidly heal whilst a sore is being produced at the other positive pole. In an ordinary ulcer the two processes are seen going on before the eye, for although the old definition implied a simple destructive process merely, yet we can clearly perceive during the process of granulation and in the secretion that new material is being formed. Mr. Golding-Bird has well said that in an ulcer we see a constructive inflammation, and that there is not merely a loss of tissue, but there is embryonic life going on again—a recommencement of evolution, a redevelopment of growth from elementary cells, the embryonic elements being always present and roused to action by the inflammatory process, so that the two conditions of growth and decay are mutually dependent. This local process is the same which is going on throughout the whole body, where the nourishment is obtained from outside materials, or, as Herbert Spencer puts it, "We grow by reconstructing the elements previously dispersed in animals and plants." It is the same process, indeed, which is going on throughout the world. Naturalists tell us, for example, of the formation and decay of coral reefs; whilst these are constantly growing and being renewed on the surface they are wasting beneath, so that the lower parts consist of nothing but the detritus of the older reefs which have broken up. Growth and decay are thus constantly proceeding, and Nature, with her myriad voices, proclaims the great truth that life is ever ceasing and ever being renewed. In the human being the same processes are perpetually going on, not only in health, but in states so-called diseased, as in the above-mentioned example of ulcer. Yet this double process is continually overlooked, no doubt from the difficulty we have in being able to separate the reparative from the true morbid action. In most instances this is owing to the fact of the reparative material not being equal in organisation and similar in structure to the original tissue. The complex parenchymatous structures are not renewed after injury, like the simpler ones of bone or areolar tissue, although occasionally we meet with a true growth of nerve fibre or adenoid structure. What we generally mean, therefore, by repair is not reparation by a growth resembling the original structure, but by a growth of lower organisable material. Still, the attempt at repair, in whatever way it may be accomplished, is continually visible, and the object of these remarks is to point out not only where we have been remiss in failing sufficiently to recognise the true interpretation to be put upon many of the new changes we meet with in the tissues, but have been content to style them all in a very cursory manner morbid. This distinction has an important clinical side as regards prognosis and treatment, besides being one of pathological interest.

I will endeavour to illustrate my meaning by one or two examples, and will take first the case of phthisis. During a long experience in practice I have seen nothing so common as an error in the prognosis of this disease. And why? Because the constructive changes have been confounded with the destructive ones; in fact, the very signs which the beginner regards as the strongest proofs of disease are those which indicate the probability of cure. He learns the signs of a cavity in the lung, and then, recognising its existence in a particular case, he immediately condemns his patient, feeling instinctively that nothing could be more terrible than the existence of a large hole in a vital organ. And yet a moment's consideration would show him that the dull tympanitic note, the absence of vibration in the chest walls, their sinking in, the pectoriloquy, &c., all point to a hard-walled cavity due to a reconstructive action following the destructive process. The formation of this fibrous tissue has

shut off the part destroyed from that of the healthy lung, a reparation and cure have been going on and produced those marked physical signs which he has regarded as indicative of disease. No wonder, therefore, that a mistake in prognosis has been made, and that after condemning a patient who has manifested such physical signs the medical man has been surprised to find him still living years afterwards. I have, indeed, not only seen the mistake made by young and inexperienced men, but by older members of the profession; they have often confessed their surprise on seeing phthisical patients still alive whom they had condemned years before. This case of phthisis is perhaps the commonest example, where the constructive and destructive processes have not been sufficiently distinguished; but we will now take another case, where the changes are more complex, and where a greater difficulty exists in distinguishing those which may be regarded as destructive and those which are reparative. I refer to cirrhosis of the liver. This organ may be observed during life to be first enlarged and then become nodulated and shrunken; amongst other signs of the disease which the text-books describe is an enlargement of the veins on the surface of the abdomen. These were thought at one time to be due to some pressure on the vena cava, but this is really not the case, and the appearance is now shown to be due to an enlargement of the epigastric vein in connexion with the opening up of the old umbilical vein, which often becomes as large as a goose quill. Through this the portal blood flows and finds a free passage into the vena cava and systemic circulation. Injections may be easily made to pass from one system into the other. The patient in this way is relieved from an engorgement of the portal system and from the consequent dropsy. This enlargement of the veins, therefore, which is simply described as a sign of cirrhosis, should also be spoken of as a sign of a reparative character. And probably this is not all, for when the cirrhotic organ is examined carefully and microscopically we find that, although the nodules are composed mainly of atrophied hepatic tissue, there has also been an attempt to replace it by a new formation of cells and vessels. New bloodvessels may be seen and apparently new ducts, as well as cell growth. Now, although these new elements are not perfect enough to take on the function of the liver, there can be little doubt that they do relieve the circulation in a disabled organ. That new hepatic structure may grow under the strain of necessity is seen in those cases where portions of the liver have been destroyed by injury or disease in the same way that one kidney will double its size when its fellow from any cause has become atrophied, illustrating the doctrine of Aristotle that function precedes organisation.

[Dr. Wilks then gave examples where the morbid and reparative processes are mingled, so that it is very difficult to allocate the condition to its right category, and concluded by saying that, as a teacher of pathological anatomy, he had not paid sufficient regard to the distinction between the constructive and destructive processes; that whilst there have been decay and degeneration there have been also growth and regeneration. He held that to study these for the sake of discovering the several influences exerted in the production of each would be of great practical import, tending to show that pathology is governed by the same laws as those which exist in every other department of Nature, and, therefore, may safely take its place among the other sciences.]

The Malaria Parasite.

Dr. PATRICK MANSON then followed with a paper on Some Facts in the Life History of the Malaria Parasite. He commenced by describing the usual forms of the parasite met with in the blood of patients suffering from malaria, and by showing how these varied in their appearances according to the time, during or after the attack, or when they were obtained; he then went on to show how the flagellate forms were not developed in the body, but only outside the circulation; how in their earliest stages they were merely masses of pigmented granular protoplasm, which could be observed to thrust out the characteristic flagellæ, and these eventually separated themselves off from the cell and played an important part in the development of the organism outside the body. He regarded the intra-corpuscular elements as destined to carry on the life of the parasite within the body, whereas the flagellate forms were met with only outside the body. The point as to how the flagellate forms escaped from the circulation next occupied his attention, and he proceeded to quote from the researches of Surgeon-Major Ross to show that probably the mosquito was an intermediate host of the parasite. This observer has found that the parasites are able to resist destruction in the stomach of this insect, and passing thence into the blood occur much more frequently in the flagellate form than in blood drawn from the finger of a patient with malaria; its development in the intermediate host is also evidenced by the fact that the crescent forms all become spheres. He cited an instance of a man who by accident had swallowed the contents of a bottle containing a store of malarious mosquitoes, and who, although he had never had fever nor been exposed to the chance of getting it, yet in eleven days developed malarial disease. He explained the communication of the disease from the insect to man by supposing that the parasites on the death of the mosquito are added to water or soil, and by that means are carried into the human body.

In the discussion which took place Dr. THIN drew attention to the fact that in Sierra Leone malarial fever is very common, but mosquitoes are rare. He agreed with Dr. Manson in that, supposing these insects to be an intermediate host, drinking water probably formed the means of communication to man. He believed that the flagellæ played some part in the life history of the organism, and were not, as Marchiafava thought, due to the convulsive movements of the protoplasm in its death struggles.

In reply to questions from other members Dr. MANSON stated that the parasite must have some third form not yet discovered in which it can remain latent in the body for a long time, until the conditions favourable for its development occur, at which time the patient develops an attack of fever.

Exophthalmic Goitre.

A case of Exophthalmic Goitre was recited in detail by Dr. A. FOXWELL in which marked changes in the brain were found. These were: 1. Chronic inflammation and sclerosis of the pia covering part of the vermiform process and of that covering the fourth ventricle and also of the middle commissure of the third ventricle. 2. Acute softening of the surface of both thalami. 3. Excessive vascularity of the surface of the brain of the internal capsule, of the cerebellum and of the medulla—in the middle of the medulla, at any rate—leading to occasional hæmorrhages. 4. Sclerotic changes involving portions of the tegmen, pyramids, and the nuclei of the fasciculus gracilis and cuneatus, and of the tenth pair of nerves.

Papers were contributed by Dr. G. R. MURRAY on Some Results of Thyroidectomy in Rabbits, by Mr. J. H. TARGETT on Syringomyelia and Joint Disease, and by Dr. ROBERTSON on Arachnoid Hæmorrhage.

The Fungi of Cancer.

In the discussion on Cancer Mr. D'ARCY POWER, Mr. SHATTOCK, and others criticised adversely Dr. Braithwaite's paper, in which he claimed to have demonstrated fungi in malignant disease. They thought that the appearances which he described were due to changes in fat cells and elastic tissue produced by the methods used in the preparation of the specimens, and that the so-called spores were in reality crystalline substances deposited in colloid media.

The following papers were also read before the meeting of the Section terminated:—On the Chemistry of Carcinoma and Sarcoma, by Dr. HEWLETT; On the Insidious Marrow Infection of Breast Carcinoma, by Dr. H. SNOW; the Occurrence of Cancer in Chalk Valleys, by Mr. T. W. BLAKE; On the Condition of the Larynx in a case of Typhoid Fever, by Dr. A. R. PARSONS.

OPHTHALMOLOGY.

Address by the President of the Section.

Mr. HENRY POWER, in his introductory remarks, said:—After the warm expressions of welcome that have been addressed by the President to the members of the Congress generally, little remains for me to add, except that the Ophthalmologists of London in a more special manner greet with a friendly grasp of the hand all those who are practising this important department of medicine in other cities and towns of Great Britain, or who have come to visit us from other countries. I am sure I am expressing the sentiments of the Metropolitan members of this Congress when I say that we feel ourselves to be highly honoured by their presence on this occasion, and that we trust they

will not only derive profit from the numerous papers on interesting subjects that have been promised to us, but that they will receive some pleasure from the various objects of interest this great city and its vicinity can exhibit. Half a century ago no such friendly salutation could have been offered, because ophthalmology though full of vitality had not yet reached the stage of separate existence, but was still merged in general surgery, few or none practising it with exclusiveness. Within that period, however, great changes have occurred. Affections formerly lightly passed over or altogether disregarded have been found to require for their explanation and elucidation prolonged and careful inquiry, and new means and methods of research have been added to our previous stock. The ophthalmoscope invented by Helmholtz, the distinguished physicist and physiologist, whose loss we have had so recently to deplore, opened up a vast field of study, and the revelations of the changes presented by the intra-ocular structures obtained by its employment are by no means exhausted. The investigation of errors of refraction and their correction in the path pursued by Donders and his school and still further developed by Landolt and others; the study of muscular anomalies and defects so energetically worked out by our American coadjutors; the recognition of the immense practical importance of good colour-vision in all forms of land and sea conveyance regulated by a system of signals; the labours of a host of clinical observers both at home and abroad in devising and perfecting methods of treatment both operative and medicinal; the gradual recognition of the fact that many constitutional diseases—such as albuminuria, diabetes, leukæmia, and febrile affections—generally powerfully influence vision, are all circumstances that have contributed to enlarge the horizon and to develop the resources of the ophthalmologist to an extraordinary degree. This, again, has led to the founding of several special hospitals devoted entirely to the treatment of diseases of the eye, and also to the establishment of departments with the same object in view in connexion with each and all of our general hospitals. To discharge the duties connected with these institutions professors have been appointed who have required the services of assistants and house surgeons and these in turn have been able to instruct a large number of intelligent and diligent students, and thus to diffuse throughout the kingdom a sound knowledge of the nature and treatment of eye diseases; so that, whereas only a decade or two ago the unfortunate victim of iritis or keratitis, squint, cataract, or glaucoma, residing in the country, was either compelled to go to London, Edinburgh, Dublin, Manchester, Birmingham, or one of the great centres of population, at the present time there are few towns of very modest size that do not possess an ophthalmic surgeon capable of diagnosing and treating any of the ordinary forms of ophthalmic disease.

The foundation of the Ophthalmological Society of Great Britain has proved of the greatest utility by enabling remarkable cases to be seen by all who are interested in the subject by supplying a field where papers can be read in which new views can be advocated or old ones subjected to wholesome criticism, and in which an *esprit de corps* can be fostered and a fellow feeling established amongst men who have no petty jealousies but who seek success only by honourable rivalry. Our branch of work is by common consent the most fortunate of all in the opportunity it affords of applying methods founded on pure science to the diagnosis and treatment of disease; and so long as our ranks are recruited by those who have gone through the ordinary curriculum of medicine and surgery now required by the examining bodies, and so long as it is recognised by the profession generally that an accurate knowledge of it will often supply the key to many constitutional affections we need have no fear that it will separate itself from them to become a barren branch. But this does not the less relieve us from the necessity of constantly keeping in view the scientific side of its study. Perhaps from the recognition of my own defects, I am strongly of opinion that all those who enter the ophthalmic department of the profession should have gone through a sound mathematical training. At the present moment this is certainly not a *sine quâ non* for a candidate to any post at an ophthalmic hospital, but I am sure that if it were made so it would be of great advantage to the rising generation of British ophthalmologists, that the practical work would be better done, and that under any circumstance it would prove useful mental training.

Though the organ with which we are engaged is but small it is yet a theatre large enough to permit many pathological processes to be followed out which owing to the diversity of tissues present can be defined with more precision than elsewhere, where theories of the nature of disease can be tested, and where different modes of treatment can be strictly compared and their relative value estimated. Immense strides have been made in the diagnosis of ophthalmic disease during the last fifty years. In 1842-43 Dr. Hocken tabulating the statistics of six eye infirmaries,[1] states that out of 30,971 cases of ophthalmic disease, 16,383, or more than half, were cases of conjunctivitis. A very different distribution would obtain now-a-days. No doubt much remains to be done; there are many gaps and imperfections in our knowledge; let us hope that some of these may be filled up and removed in the labours to which we will now address ourselves.

Acromegaly with Ocular Complications.

Mr. ARTHUR BENSON read a paper on the Ocular Complications of Acromegaly, about which, he said, little was definitely known. He quoted the case of a farmer aged thirty-eight, a big man of 12 st., who developed with the signs of acromegaly central scotoma and loss of colour vision in the temporal halves of the retina. The man smoked a good deal, and great improvement followed giving up tobacco and taking iodide of potassium. Later there was almost complete loss of vision, which returned in seven weeks under thyroid extract given in the fresh state, but there remained a defect in the upper temporal quadrant of the retina on each side. Dr. Benson referred to the enlargement of the pituitary gland and its pressure on the chiasma as the cause of visual defect.

Dr. MEYER said that in most of the cases the outer half of the field of vision was lost owing to pressure on the posterior part of the chiasma, but the modifications of vision were very various. He thought the improvement scarcely corresponded with acromegalous atrophy.

Mr. LITTLE (Manchester) quoted a case in a young woman in which contraction of the field took place outwards and upwards; there was atrophy of the optic nerve in the left eye.

Professor PANAS (Paris) mentioned a case in a woman of thirty-five in whom acromegaly was associated with temporal anopsia and epileptic fits. Treatment had no effect.

Mr. SWANZY instanced the case of the Irish giant, Cornelius McGrant (1720), whose skeleton was preserved at Trinity College, an examination of which showed it to be affected with acromegaly. The sella Turcica would contain a walnut. The posterior clinoid processes and the commissoral groove were obliterated, and sight must have been limited to the outer portion of the left retina.

Professor FUCHS said the central scotoma might have been due to the acromegaly, and quoted an instance of tumour of the optic nerve causing central scotoma in the absence of alcohol or tobacco. Subsidence of œdema would account for improvement taking place.

Mr. HILL GRIFFITH and Mr. SNELL also spoke.

Certain Rare Cases of Recurrent Ophthalmia.

Professor FUCHS read a paper on this subject, of which he had seen twenty-three cases. Coarse injection of the conjunctiva of the globe and episcleral vessels occurred, accompanied by pain on movement and photophobia. There was also in some cases removal of the near point, or spasm of accommodation, with temporary myopia. The conditions recurred at intervals of a week or fortnight, and affected both eyes alternately. Uric acid and oxalates were in excess in the urine. The disease appeared to be associated with gout, rheumatism, or malaria. Salicin and quinine delayed the attacks, which recurred when the drug was left off and seemed to be precipitated by catarrh. He quoted several cases at length.

Dr. BERRY referred to the cases under the term episclerites fugax. The vessels only were affected. There was no glandular change. The disease corresponded closely to Von Graefe's subconjunctivitis, and sometimes went on to iridocyclitis or sclerotitis. It was best treated with salicin or hydropathically.

Mr. E. MORGAN JONES said that after other remedies had proved unsatisfactory he had performed peritomy with good results.

Dr. JOHN GRIFFITHS and Mr. HERN mentioned cases of an allied nature which were accompanied by a vesicular eruption at the margin of the cornea.

[1] THE LANCET, Aug. 19th, 1843.

Mr. GEO. WALKER had secured immediate relief in these cases by radiating incisions through the conjunctiva across the affected area.

Mr. PRIESTLEY SMITH thought the condition was difficult to define. There was a strong superficial resemblance between the episcleritis urticarial conditions—hay fever and herpes eruption. He regarded the malady as depending on constitutional state, like gout or rheumatism, and considered the elimination of the waste products as of the first importance, and this was much assisted by taking hot water freely the first thing in the morning and at other times.

Mr. CRITCHETT agreed that this was identical with Von Graefe's subconjunctivitis. He thought the best treatment was to give salicylates and quinine, with hot water internally and systematic bathing—both water and hot air.

Professor FUCHS, in reply, said the condition in question must be clearly distinguished from vesicular eruptions—catarrh or injury of the cornea. In the acute stage he had used Vichy water with some benefit, but the problem was to prevent recurrence.

Chlorine Water in Threatening Suppuration of the Vitreous.

Dr. BERRY described this treatment and cited some striking cases which had been so treated, in accordance with the results of Chassaud's experiments. It was the safest and least irritating antiseptic and produced immediate effect. Four drops of a 4 per cent. solution were introduced with a hypodermic syringe into the centre of the vitreous—through the sclerotic between the insertions of the external and superior recti. It was specially useful in suppuration, traumatism, and sympathetic ophthalmia.

Dr. ARGYLL-ROBERTSON said he had seen some of the cases described, and had been favourably impressed with the method. The chlorine produced no ill effect, and it was worthy of more extended employment.

Mr. NETTLESHIP thought in cases of traumatism the chlorine water might better be injected along the track of the injury.

Dr. BERRY, in reply, said the wound was commonly in a position inadmissible for operation, and further, as the currents in the eye were directed forward, it was better to inject the fluid from the back.

Dr. BULL (Paris) read a paper on Optometry by the Subjective Method. He said it involved many sources of error, but one especially consisted in the disturbing effect of *astigmia* (*sic*) while determining the degree of myopia. All astigmia, he said, should be made myopic, the vision then being tested for distance.

Dr. ANGUS MCGILLIVRAY cited a curious family history of astigmatism, which, occurring in a male parent, slipped the next generation and appeared in the males of the third and fourth generations, being transmitted by the females like hæmophilia or pseudo-hypertrophic paralysis. He also quoted instances of family nystagmus.

Dr. KOSTOR described the construction and use of an instrument for measuring the tension of the globe.

Mr. LEE described a case of Pemphigus of the Cornea, with total destruction of vision.

Mr. BELL referred to a similar case.

M. GAYET illustrated the use of photographs in different positions of the eye to compare the parallelism of the optic axes before and after operation for squint.

Mr. JOHN GRIFFITH read a paper on the Pathological Distinctions between Sarcoma of the Choroid and Glioma of the Retina.

DISEASES OF CHILDREN.

The proceedings in this Section were opened by a few remarks by the President, Mr. J. H. Morgan, relating to the history of the Section since its establishment in 1883.

Congenital Syphilitic Manifestations in Bones and Joints.

The first discussion, on Congenital Syphilitic Manifestations in Bones and Joints, was then introduced by the President, who summed up in an admirably clear and judicious paper the present state of our knowledge with regard to this important group of cases. After touching on the chief historical points in connection with the subject, Mr. Morgan described the various pathological processes which underlie the different manifestations. He pointed out that in infants the changes are found chiefly at the growing end of the bones, especially at the distal ends, and are more frequently met with in the humerus and tibia than in other bones. There is an endosteal inflammation, which not infrequently goes on to suppuration. Clinically there is general thickening of the bone, especially towards its distal extremity; occasionally there is deformity from displacement of the entire epiphysis, and frequently there is "pseudo-paralysis," the limb being flaccid and never moved by the patient if he can avoid it. With all this there is seldom much pain unless suppuration has occurred. When this occurs the synovial cavity of the joint is apt to become involved through spread of the inflammatory process. In older children, after the second dentition, frequently at the same time as keratitis, we have a different manifestation of the disease. Nodes are developed on long bones, and necrosis often follows, and there is a tendency to general hypertrophy and induration. It is in these cases that necrosis of the palate and bones of the nose is due. There is very little nocturnal pain in these cases, but they are not nearly so amenable to iodide of potassium as are similar conditions in adults. These cases of osteitis not infrequently lead to alterations in the shape of the bones, curving, lengthening, or in some cases shortening from interference with epiphyseal growth. Dealing with the changes in the cranial bones and with the relations of congenital syphilis to rickets, Mr. Morgan strongly repudiated Parrot's doctrine that rickets was merely a stage of congenital syphilis. He held, however, that rickets was mainly due to improper feeding, and that hereditary syphilis was frequently a predisposing cause of the condition. With regard to "bosses" on the cranium, he held that the majority were due to hereditary syphilis, but he evidently considered it still an open question whether bossing of the skull and craniotabes were due to direct syphilitic processes or whether it was only "by impairing nutrition and acting as a debilitating factor that it is prominent among many others as a cause of rachitic changes." With reference to syphilitic manifestations in joints he pointed out that many were due to extension of the epiphyseal inflammation, and that in others there was chronic effusion into several joints, usually symmetrically, concomitant with interstitial keratitis, as Mr. Clutton has described. These cases are very chronic, and there is no pain.

In the interesting discussion which followed, in which Dr. Barlow, Mr. Eve, Mr. D'Arcy Power, Mr. H. B. Robinson, and Mr. H. Stansfield Collier took part, there was a general agreement with the President's account of the conditions present. With reference to the vexed question of the significance of craniotabes and cranial bossing Dr. Barlow stated that he had been obliged by his observations to entirely give up the opinion he strongly held and taught—that these lesions were necessarily indications of syphilis. Although admittedly these signs are most frequently met with in cases of congenital syphilis associated with rickets, they also occurred in children in whom the possibility of hereditary syphilis could be excluded; and, further, that they appeared in the crania of young animals suffering from rickets. He regarded congenital syphilis as a powerful predisposing cause of rickets by modifying the nutritional processes; but, like the President, he scouted the idea that ordinary rachitis was a syphilitic process.

The Nervous Sequelæ of Infectious Disease.

Dr. HENRY HANDFORD then introduced a discussion upon the Nervous Sequelæ of Infectious Disease. He said:—

The occurrence of paralysis during convalescence from the continued fevers was known to Cullen and many of the older writers, but it was not until the time of Landry and Gubler that the doctrine of post-febrile paralysis assumed a definite form. For the sake of clearness it seems useful to divide the sequelæ into those affecting—(1) the brain and its membranes; (2) the spinal cord and its membranes; (3) the nerves; and to consider in regard to each division, first, the changes which may occur after all or most infectious diseases, and, secondly, the special qualities of the changes resulting from particular diseases, that is, first, generically and then specifically.

1. It would indeed be strange in a complex machine like the organ of mind, the orderly working of which is so readily disturbed during the pyrexia of fever, especially in childhood, if it did not sometimes, as a result of that disturbance, become permanently deranged. And so we find; but such cases are rare, except when the brain is by inheritance weak and unstable. I recollect one case of mania with delusions

arising during convalescence from enteric fever. Idiocy and imbecility are occasionally met with from arrested development in the very young, and melancholia, dementia, and a few cases of mania in older life. Scarlet fever and enteric fever are the most frequent antecedents. Epilepsy has resulted from attacks of most of the specific fevers, especially scarlet fever, measles, and typhoid fever in that order of frequency. More cases of epilepsy are said to be consecutive to scarlet fever (apart from the influence of nephritis) than to all the other acute diseases put together. Optic neuritis may follow scarlet fever, and a condition of speechlessness—not a true aphasia—is not uncommon after typhoid fever. Meningitis may arise in the course of any of the acute specific diseases, more especially small-pox, measles, and scarlet fever; but its presence is much more frequently suspected without sufficient cause than overlooked. When present it is often probably septicæmic in character. 2. Both myelitis and spinal meningitis are occasionally produced by attacks of infectious disease. Sometimes it appears to be of septicæmic origin, but in many cases the specific poison of the fever seems to be the exciting cause. Acute myelitis especially follows small-pox, measles, and scarlet fever. It may arise in the course of the fever, during convalescence, or a month or more after the disease is over. Numerous cases of anterior polio-myelitis have been described after acute infectious diseases, but no doubt in some of them the muscular wasting has been primary and in others due to peripheral neuritis. Nevertheless, a residuum remains where the wasting has in reality been caused by an affection of the nerve cells. Numerous cases of Erb's juvenile form of progressive muscular atrophy have been described arising after measles, and last year I had under my own care a case of the same disease in a boy aged eleven arising after an attack of enteric fever, and much aggravated by a subsequent attack of scarlet fever. The exact influence of the infectious diseases in determining the onset of muscular atrophy is difficult to define. The usual occurrence of the disease in several members of the same family shows that a congenital tendency must be called into activity by the virus, but the numerous instances where the disease has followed immediately upon one of the acute specific fevers also show that the influence of the fever poison cannot be altogether neglected. In some cases the weakness due to an attack of typhoid fever seems to persist in the legs, and is accompanied by neuralgic pains and various defects of sensation. It is supposed that the symptoms may be due to disseminated myelitis of slight intensity. The muscular tremor, which is occasionally so conspicuous during the course of typhoid fever, may continue during convalescence, and it has been known to persist and to be followed by symptoms of disseminated sclerosis. 3. Peripheral neuritis follows especially diphtheria, influenza, typhoid fever, measles, and small-pox. In 1888 I published three cases after typhoid fever: in each case there occurred extensive anæsthesia in the distribution of the ulnar nerve (preceded in two of them by pain and tenderness), wasting of the small muscles of the hand sufficiently extensive to be easily demonstrated by photography, reaction of degeneration, paralysis of motion, together with local fall of temperature and nutritional changes in the skin. In one of the three, and in several other cases also, I observed a remarkable tenderness of the toes sufficient to require them to be protected from the pressure of the bedclothes by a cradle. In one case the arms also were tender. In others there has been remarkable hypersensibility of the skin both to touch and more especially to cold. In most of these cases, perhaps in all, neuritis was the cause of the symptoms. There are still several extremely difficult though important problems awaiting solution. Among them are—the nature of the poison, which, circulating in the blood or lymph, acts immediately upon the nervous tissue and causes paralysis; whether there is one virus or whether there are many; whether the resulting lesion is inflammatory or (mainly) degenerative; and whether there are specific differences in the sequels of each infectious disease. Although there is scarcely any acute infectious disease a severe attack of which may not be followed by a lesion or disorder of some portion of the nervous system, yet with such various antecedents there is a very strong general resemblance between the sequels. The chief reason of this resemblance, no doubt, consists in the fact that the manifestations of the nervous disease depend almost entirely upon the organ and tissue affected, and very little upon the virus producing the lesion. I doubt if it is possible to distinguish by the symptoms a neuritis following enteric fever from one following small-pox or measles. But just as in the toxic neuritis due to lead, arsenic, or alcohol there is evidence of selection—and some nerves are much more frequently attacked than others—and as in diphtheria the toxine very rarely indeed attacks the spinal cord, while it affects the nerves in 25 per cent. of all cases, showing special affinity for the nerves of the palate, so in the nervous disorders which follow the other acute infectious diseases there is likewise evidence of selection. After some diseases the brain is most frequently affected, after others the spinal cord, and after yet others the peripheral nerves; but why do not the nervous sequels which depend on the toxic effect of the fever poison follow every severe attack? The organisms which produce the toxine produce also the antitoxin; and the affection of the nervous system may depend on the proportion of one to the other, or it may be necessary for various adventitious circumstances to coexist. And, lastly, does the same toxine attack the various portions of the nervous system—brain, cord, or nerves—indifferently?

OTOLOGY.

Address by the President of the Section.

Sir WILLIAM DALBY, Consulting Aural Surgeon to St. George's Hospital, said:—In consequence of the meeting of the International Otological Congress, to be held at Florence in September, we shall not have the assistance of many Continental visitors who otherwise would have come to this meeting; but, on the other hand, Scotland, Ireland, and the provinces will, I believe, be represented more completely than is usual at our annual gatherings. The programme is before us, and besides papers of considerable interest we shall have the privilege of hearing from Professor Macewen, whose brilliant achievements in cranial surgery are so familiar to us, his views on the grave questions involved in operative measures which become necessary when the process of inflammation has proceeded from the middle ear to the cavity of the cranium. In regard to the treatment of the various forms of "nerve deafness," I wish to say that the words in which this discussion have been described were not chosen without due deliberation. The term "nervous deafness" is intended to include not only disease of the nervous apparatus, but loss of hearing due, as we know it to be, to causes which affect the whole nervous system generally; also loss of hearing due to shock or to emotional and mental influences. Lastly, those conditions which, beginning as they do within the tympanic cavity, and at first simply interfering with the conduction of sound, finally are found to involve the perceptive as well as the conducting media, and to be the starting point apparently of subjective nervous phenomena. In short, the title of the discussion has been made purposely vague in order that when the subject of treatment is discussed it should be incumbent on the speaker to be exceedingly definite as to the precise nature of the cases for which the treatment is proposed, for in debating or writing upon so difficult a question nothing is so obstructive to real progress as dealing with generalities. What we desire is to thoroughly thrash out the subject, so that we arrive at the approximate value of various methods of treatment which seem to require a more complete accuracy as to the conditions which they are supposed to combat. We know that we are often unable to point to a definite organic change within the nervous apparatus, but at least we wish to be able to point to the *modus operandi* of the remedy upon the function of the special sense. This anxiety for a more firm basis on which to place various remedies applies especially to the use of pilocarpin and electricity. At one time great hopes were entertained in the profession as to the value of pilocarpin, and yet when the subject was discussed at a recent meeting of this Association at Newcastle it found very little support, even from those who had given it a fair trial. Again, it cannot fail to have been observed how in many nervous disorders great temporary benefit has followed the use of electricity, but the permanent effects have very frequently not been maintained. We hope at this meeting to hear something definite as to the real value of both these agents, and to receive some helpful suggestions as to the conditions, if any, where they may be expected to prove useful. It is noteworthy that in our list of papers we have none upon a subject that must incessantly agitate the minds of aural surgeons. I refer to the operative proceedings upon

the tympanic membrane and cavity of the tympanum for the relief of chronic change; for, notwithstanding all the disappointments in this direction, the fact remains that some of us (and I include myself in this number), after years of careful observation, are still in a position to make a selection of cases in which we are reasonably confident that if we could make a permanent and large opening in the tympanic membrane the hearing would be restored to a most useful extent. It is, I believe, in this complete knowledge that the impulse is to be found for all the operations that have from time to time been proposed. It is to an incomplete knowledge in the selection of cases that the great proportion of failures have occurred. Impressed as I am with the brilliant future of surgery in all its departments, I cannot but believe that some day or other (it may be at a distant date) one of us is destined to solve this much-debated problem.

PHARMACOLOGY AND THERAPEUTICS.

Address by the President of the Section.

Sir WM. ROBERTS, late Professor of Medicine in Victoria University, read the following address on Anarcotine, a neglected Alkaloid of Opium. He said:—During my travels in India last year, as a member of the Royal Commission on Opium, I heard a good deal about anarcotine and its employment in years gone by as a febrifuge in the treatment of the malarial fevers which are so prevalent in that country. By far the most abundant alkaloids of opium are morphine and anarcotine, and while morphine represents the anodyne and hypnotic qualities of the drug, anarcotine represents, as I shall presently show, its antimalarial qualities. There are considerable differences in the proportion of morphine and anarcotine in the several varieties of commercial opium. These differences are especially pronounced in the case of Smyrna opium, which is used in this country for medicinal purposes, and Bengal opium, which is popularly used in India. These differences are set forth in round numbers in the subjoined table:—

	Smyrna Opium.	Bengal Opium.
Morphine	8 per cent.	4 per cent.
Anarcotine	2 per cent.	6 per cent.

It will be observed that Bengal opium is comparatively poor in morphine but very rich in anarcotine. Smyrna opium, on the other hand, is very rich in morphine and very poor in anarcotine. Anarcotine was brought into prominent notice in India about fifty years ago. At that time quinine became very scarce and dear. The supplies of bark from South America were failing, and it had not yet been proved that the quinine-bearing cinchonas could be cultivated with success on the uplands of India. There was thus a serious prospect of a dearth of quinine in India, and the Indian medical authorities had to cast about for some cheaper and more abundant substitute. Now, opium had long been held in high repute among the natives of India as a remedy and protective against malarial fevers, and habitual opium-eaters were said to enjoy a remarkable immunity from malarial infection. Attention was therefore directed to anarcotine, which is the most abundant alkaloid of Bengal opium, and trials were made of its curative power in malarial fevers. Sir William O'Shaughnessy, in 1838, brought the subject before the Calcutta Medical Society. He gave an account of thirty-two cases of intermittent and remittent fevers treated with anarcotine. Of these, thirty-one were cured. He also mentioned 100 other cases which had been treated by his pupils and colleagues with equal success. These results, and others of a like character, induced the Indian authorities to institute further experiments, and, these proving favourable, they caused anarcotine to be prepared in quantity at the laboratories of Ghazipur and Patna, and distributed to the medical depôts throughout British India. Two important communications on the antiperiodic powers of anarcotine lie buried in the medical archives of India and deserve resuscitation. They are based on a large experience, and they prove incontestably that anarcotine is scarcely inferior, and in some classes of cases is superior, to quinine as an antiperiodic. The first, from Dr. Palmer, is contained in a letter to the Director-General of the Indian Medical Department, and is reprinted in the "Proceedings of the Opium Commission," vol. v., p. 78.[1] In 1857–59 Dr. Palmer treated at Ghazipur 546 cases of malarial fever with anarcotine, in doses ranging from 1 to 3 grains. Of these, 541 were cured and only 5 died. In addition to these 546 officially reported cases, he treated with anarcotine a large number of other cases of malarial fever, amounting in all to little short of 1000 cases. Summing up his general experience, he states that in 70 per cent. the fever was arrested at the second paroxysm after the medicine was administered; in 20 per cent. the arrest was equally sure, but was not quite so quick; and in 10 per cent. the medicine did not appear to have any curative effect. He further remarks that there are cases where anarcotine is decidedly more efficacious than quinine—namely, where there is an intolerance of quinine, and where quinine has been given without any effect for a long time. The second communication is a "Report on Anarcotine," by Dr. Garden, which is printed in the seventh volume of the "Indian Annals of Medical Science." Dr. Garden succeeded Dr. Palmer in civil charge of the Ghazipur Station in 1859; and at that time a severe outbreak of intermittent fever, of quotidian and tertian type, had to be dealt with. Taking advantage of the opportunity he subjected anarcotine to an extensive trial. He treated altogether 684 cases, and gives details of 194. Of these 194 cases, 187 were rapidly cured by anarcotine. It only failed in 7 cases, or 3·6 per cent. It, moreover, cured some cases where quinine had failed. The doses he employed ranged from 1½ to 3 grains. He expresses his general conclusions in the following words: "That it [anarcotine] is equal in value to quinine I do not pretend to say, but that it has a claim to the next place in the ranks of antiperiodics is, I think, an undoubted fact." Anarcotine continued in large demand in India for several years, and was regularly supplied from the Government factories at the rate of about a hundredweight per annum. It is to be observed that Dr. Palmer and Dr. Garden perceived a distinction between quinine and anarcotine, and recognised that there were cases of malarial fever which resisted quinine but yielded to anarcotine. Both observers also noted that in a certain percentage of the cases anarcotine proved wholly ineffective. These discrepancies are probably to be explained by the facts brought to light in recent researches on the infective organisms of paludal fevers. It has been shown that these organisms are of more than one kind, and that each kind corresponds to a particular type of malarial fever. There seems to be valid evidence that in anarcotine we possess a second antiperiodic of great power, analogous to, but not identical with, quinine; and the point I wish to press upon those who have opportunities of studying malarial fevers, especially upon investigators in India, is the desirability of subjecting anarcotine to a fresh examination, with a view of ascertaining its value, as compared with quinine, in the different types of malarial infection, and in cases where quinine has proved ineffective. I should mention that anarcotine was originally named "narcotine" by its discoverer, Derosne, and this is the name by which it is still generally known. This designation is, however, wholly inappropriate and misleading. The extensive trials made with this substance in India show that in a pure state it is quite devoid of narcotic properties. For this reason Dr. Palmer renamed it anarcotine. Dr. Garden adopted this suggestion, and I think it desirable to follow his example. I show you here two fine samples of anarcotine. One was manufactured in London by Hopkin and Williams, of 16, Cross-street, Hatton-garden; the other was procured by Dr. Vaughan Harley from India, where considerable unused stores of anarcotine still exist in medical depôts.

LARYNGOLOGY AND RHINOLOGY.

Address by the President of the Section.

Dr. FELIX SEMON, Physician for Diseases of the Throat, St. Thomas's Hospital and National Hospital for the Paralysed and Epileptic, took for the subject of his address "The Post-Graduate Teaching of Laryngology." He said:—Before we enter upon the important general discussion of to-day's proceedings I should like to engage your attention for a few minutes with the question of the post-graduate teaching in laryngology and rhinology in this metropolis. It cannot be denied that post-graduate instruction, such as given at the present time in these two branches, is inadequate

[1] Copies of the Proceedings and Report of the Opium Commission have been deposited in the libraries of the British Medical Association, the Royal College of Physicians of London, and the Royal Medical and Chirurgical Society.

to both the opportunities and the requirements of London. The present arrangements are excellent in many respects, so far as they go, but I contend that they do not go far enough, and from conversations I have had with the President and Secretary of the London post-graduate course itself I have come to the conclusion that this opinion is shared by some of the officers of that institution. Clinical lectures on selected chapters of rhino-laryngology, accompanied or followed by the demonstration of a few cases, are all very well, but nobody will learn from such clinical lectures alone to properly diagnose and treat throat and nose cases when they later come under his own observation. For this purpose a much more methodical instruction is necessary.

Another point of considerable importance is the fact that the post-graduate course as at present constituted consists in a combination of a few hospitals in which every special branch is represented by one hospital only, whereas experience has shown that those who wish to take part in the post-graduate instruction appreciate nothing more than the option of an extensive selection amongst various teachers.

Finally, successful competition with foreign post-graduate courses is rendered almost impossible by the fact that the laryngological and rhinological clinics in almost all the general and special hospitals, as well as in the post-graduate course, clash with one another, in that the days and hours of attendance and of lectures are the same in all these different institutions, so that those who would like to condense into a short span of time such post-graduate instruction as they require find no opportunity to utilise their time in a really satisfactory manner.

[Dr. Semon here dwelt on the necessity for efficient and harmonious organisation. He proceeded:]

What we require is something not competing with, but supplementing, the existing institutions, an organisation which aims at providing practical instruction within a comparatively short time not only for the Continental, American, and Colonial visitor, who at present passes by our shores and prefers to put up with the inconvenience of receiving such instruction in another than his mother-tongue, but, above all, for the wants of the British practitioner who, after a short acquaintance with practical work, finds gaps in his knowledge which he considers desirable to fill up, provided this can be done without too great a loss of time. It would be very difficult, I believe, or indeed impossible, to effect such an organisation if it were limited to one special branch alone; but it should be possible to create it if teachers of all the branches in which special post-graduate instruction is required—such as ophthalmology, otology, laryngology and rhinology, dermatology, bacteriology, &c.—joined hands to found it. My own ideal in this respect would be an institution conducted very much, though not slavishly, upon the lines of the Viennese post-graduate instruction, occupying a large house situated as centrally as possible, and provided with a sufficient number of rooms to allow of quite a number of classes in different subjects being held simultaneously. The courses in the different branches ought to begin and to end simultaneously, and to be limited to six weeks, or at the utmost to two months. Every special branch ought to be taught not by one teacher, but by quite a large number of them, it being made a condition whilst the plan is on its trial that the teachers in each branch should agree to hold their classes at such times as not to clash with one another. So far as our own branch is concerned, its foremost aim ought to be to give practical instruction in the use of the laryngoscope and rhinoscope, in diagnosis of throat and nose diseases, and in the technique of those applications which every practitioner ought to be able to effect himself. Clinical lectures, &c., ought only to come in as a supplement, but not as the mainstay of the course. No monster classes ought to be held if really practical instruction is to be given. It will be hardly possible for a single teacher to really instruct more than twelve pupils at one and the same time. As to the appointment of teachers, no question of seniority or of fame, or of an official position at one of the general or special hospitals, ought to give a monopoly in this respect, but everybody should be welcome who could satisfy the board of directors that he is a fit and proper person for teaching the branch in which he proposes to give instruction. The material would, of course, have to be provided by every teacher from his own hospital or other sources, a number of specially selected cases being brought for each day's work. I do not see why it should be impossible to realise in London what has worked with such splendid results in Vienna; and I recommend to all who are interested in post-graduate instruction my plan for further thought and improvement.

DERMATOLOGY.

The President, Dr. RADCLIFFE CROCKER, opened the proceedings with a few remarks apropos of the great variety which dermatology offered to the student of pathology.

On the Pathology and Treatment of Pruritus.

Professor MCCALL ANDERSON (Glasgow) opened this discussion, reading a short and practical paper dealing, in the first instance, with the anatomical features of the skin and their relation to the feeling of itching, then with the usual conditions in which itching is prominent, and finally with the treatment of this very troublesome symptom.

He was of opinion that the portions of the nervous apparatus of the skin specially concerned with the sensation of itching are as follows: (1) the free nerve terminations in the epidermis; (2) the small groups of cells taking the form of a cup and connected with nerve filaments situated in the deeper layers of the epidermis or upper layers of the true skin; and (3) each hair, in virtue of the fine medullated nerve fibres which form a network in the outer coat of the hair and terminate in its sheath, is more or less of a tactile organ, and it is probable that irritation of the hair may cause pruritus. It is very difficult to say, however, why pruritus is such a prominent feature of some diseases of the skin and generally absent in others, such as the strumous affections; how it is absent in the earlier and present in the later manifestations of syphilis—points to which he specially directed the attention of the section. He then spoke of some of the more prominent causes: that which occurs in old age and which he attributes to the circulation of impure blood; that which occurs in connexion with some cases of jaundice; that which comes on in gouty persons and in connexion with functional derangement of internal organs, especially the digestive organs; that which occurs in diabetics; that which occurs in connexion with cold weather (pruritus hiemalis); and finally that which is dependent upon mental and not upon physical causes. From what he said it may be gathered that, without denying the influence of reflex irritation in the production of pruritus, he was of opinion that most cases are dependent upon direct irritation of the nerve terminations in the epidermis. Before entering upon treatment he emphasised the importance of being quite sure of the diagnosis, eliminating all other disorders, such as urticaria, phthiriasis and scabies, in which the itching is but a symptom. Having done so we must make a careful examination of the patient in the light of its etiological factors, and endeavour to correct any derangement which is found to exist. If the itching still persists, then the disease must be treated empirically. After referring to the subordinate importance of most local applications, and to the use of tincture of gelsemium and cannabis indica (Duhring) and carbolic acid (Hebra) internally, he expressed his preference for the employment of electricity, atropia subcutaneously, or the coal tar derivatives, such as antipyrin and phenacetin, in gradually increasing doses. If there is any suspicion of nervous or nutritive debility, nerve tonics, such as phosphorus, arsenic, or strychnia, alone or in combination, may be tried, the last two preferably by subcutaneous injection.

Dr. H. G. BROOKE (Manchester) first remarked on the term "pruritus," distinguishing this symptom from the term "prurigo," used in reference to conditions in which the secondary lesions from scratching are prominent. He preferred to use both the terms in such a generalised meaning as is now universally accepted when the word "lichen" is mentioned. The symptom of itching was then considered from the physiological aspect and its anatomical substratum located in the epidermis, both Dr. Brooke and Professor Anderson mentioning the significant fact that a wound itched while the epithelium was growing over its surface, not while it was in the stage of granulation. The opinion of Bronson, who considers itching to be a perversion of the sense of touch, was quoted, and served as a basis for an analogy between the altered sensation of touch, which we recognise as itching, and the physiologically-developed sensation of touch subserving the sexual emotion. The paroxysms of pruritus that occur in certain diseases requiring violent scratching to produce relief were compared to the sexual orgasm, and the analogy adduced by collateral evidence of complex nerve-

states underlying both of these modified touch conditions. The importance of some method of classification of the various causes of pruritus was emphasised, and the reason of the difficulty of making such a scheme accurate was mentioned; for in many cases, as has been so often observed, it is impossible to say whether the itching is the primary condition, or, on the other hand, follows a skin lesion which may have been slight or have even passed unnoticed. The following arrangement of causes was advanced as being approximately accurate:—1. Internal. In this category is placed the purely *nervous pruritus*—the primary pruritus of French authors. The tendency of the French school to deal much in "nerves" was alluded to, and the symptoms of "lichenification," so frequently described as a result by French authors, was looked on as some indication that their many cases of purely nervous pruritus may be due in some instances to a primary skin lesion. That pruritus may occur, however, without lichenification was not denied—e.g., in cases "Pruritus sine Prurigo" of some authors—a condition occurring in the old, though also occasionally among the young. Other causes of certain localised varieties of pruritus were mentioned on the occurrence of seborrhœa as a cause especially mentioned—e.g., in genito anal pruritus. The occurrence of the purely nervous itching was then described more in detail, and the speaker considered it to be a "diathesis of itching," demanding external manifestation, and accompanied not infrequently by internal metastases such as hay fever. Other forms of nervous itching, the expression of organic nerve disease, alienated mental states due to reflex causes, &c., were also placed in this division. The influence of various poisons in the blood—e.g., in gout, jaundice, diabetes, rachitis, foods, and drugs, was considered as occupying a place in this part of the scheme. 2. External: This division was more readily dealt with, many of the causes—e.g., local skin diseases and parasitic skin diseases—being visible and more readily dealt with. But Dr. Brooke drew attention to the fact that the local cause might be very insignificant, although its effects by means of reflex nerve irritation were manifested over a wide area, frequently in a very severe degree. The pruritus due to changes in temperature was dealt with in this place, and much interesting evidence adduced to show that changes in blood-pressure were frequently the cause of irritation of the skin in many apparently dissimilar conditions. The importance of the relief of the symptom of pruritus was emphasised, and it was to be recollected that its treatment could be properly undertaken only when the underlying causes were taken into account.

After a few remarks by Dr. EDDOWES showing the relations of symmetrical parts of the body by reflex nervous mechanism,

Dr. MYRTLE (Harrogate) spoke of the difficulty of treatment. Remedies beneficial to one patient were noxious to others with apparently similar affections. The coal-tar preparations and chloral were remedies that in his experience were the most generally useful. Although in certain cases of obstinate pruritus the application of potassa fusa, in solution of 15 gr. to 60 gr. to the ounce, over the affected areas produced great relief.

Dr. WALDO (Bristol) mentioned that in certain cases the application of blisters over the spine, in situations corresponding to the affected areas of the skin, frequently availed much in treatment, while in the peculiar variety of pruritus associated with osteo-arthritis the exhibition of sodium salicylate was to be recommended.

Dr. STOPFORD TAYLOR (Liverpool) felt that in the majority of cases internal medication was of no avail, while much benefit could be obtained by carefully adapted exercise, diet, and general hygienic precautions. The present epidemic of cycling had brought to his notice many cases of pruritus ani among those no longer in the first blush of youth, and he advised the precaution of wearing proper clothing, while the use of spirituous lotions gave much relief. The use of potassa fusa, he thought, could be necessary only in very severe cases.

MRS. GARRETT ANDERSON remarked on the nervous pruritus so frequently observed in women, and in men who led lives approaching in their conditions those of the women under consideration. She thought that the cause was to be found in the insufficient, improper, and monotonous diet indulged in by these persons, while often at the same time they were engaged in mentally exhausting and sedentary occupations. In the treatment of these cases she advised that the diet suitable to the individual should be found and double the quantity usually consumed ordered to be taken. A rest of an hour before dinner proved most beneficial, while the substitution of silk instead of woollen or linen underclothing should be advised when possible.

Dr. BARENDT (Liverpool) advised careful consideration of the details of all local treatment in pruritus to secure, as far as possible, the accurate carrying out of any plan adopted. In his experience the application of a 2 per cent. solution of carbolic acid in olive oil for five minutes at a time has produced strikingly good results. In certain other cases blisters over the spine had been of service.

Professor MCCALL ANDERSON then summed up, and concluded a very interesting and instructive discussion.

Pityriasis Rubra.

Dr. JOHN LIDDELL (Harrogate) read a paper on two cases of Pityriasis Rubra Pilaris (Devergie), illustrated by photographs, coloured drawings, and microscopic specimens. One of them was that of a girl about fifteen years of age, who had considerably improved under resorcin ointment. A careful study of the histology of the skin had been made, and Dr. Liddell came to the conclusion that the essential change in the disease was an exaggerated keratinisation of the root-sheath which gave rise to the cup-shaped elevations so characteristic of the disease. There was also an increased formation of hairs which was due to a nipping off of portions of the rete connected with a follicle, which itself gave rise to a fresh hair follicle. There was atrophy of the sebaceous and sweat glands. Masses of cells which Dr Liddell described as "parasitic" were also found in the corneous layer.

Dr. ALLAN JAMIESON (Edinburgh) and the PRESIDENT took part in the discussion, the latter remarking that it was a curious fact that the disease, which was undoubtedly a somewhat rare one, had been extremely rare since the death of Dr. Tilbury Fox, only six cases having come under his notice since that time. It was important not to confuse this disease with lichen planus and lichen acuminatus, although both flat and conical papules occurred in this disorder.

A discussion on the Pathology and Treatment of Pruritus was introduced by Professor MCCALL ANDERSON (Glasgow) and Dr. H. A. G. BROOKE (Manchester).

Dr. PYE-SMITH read a paper on the Affection of the Skin occurring in the course of Bright's Disease. Willan had long ago observed a disease, which he called erythema laeve, to be associated with dropsy. Four kinds of skin disorder had come under Dr. Pye-Smith's notice with this relationship: 1. A bright red diffused rash, of general distribution, but generally sparing the hands and feet. 2. Another kind of erythema, having a different distribution and more or less localised. In these the skin was dry and harsh. 3. A moist dermatitis resembling eczema. 4. A diffuse desquamative dermatitis, resembling the exfoliative dermatitis of Wilson, but still more like the pityriasis rubra of Hebra. These occurred chiefly in connexion with tubal nephritis, and were unknown in lardaceous disease of the kidney. They all had the common characters of being superficial and bearing no traces; were acute or subacute in their course and did not tend to recur; they were never pustular in character, though boils were apt to arise independently: they were occasionally, though rarely, purpuric; and, lastly, were usually unattended by itching and other subjective symptoms. The prognosis was not in his experience modified by the occurrence of skin complications, though they generally arose in the incurable stage of renal disease. He did not regard them as of uræmic origin, but associated rather with the neuro-retinitis and serous complications so common in renal disease. They generally arose in patients beyond middle age, and yielded readily to external remedies.

The PRESIDENT remarked that his experience led him to regard these complications as of uræmic origin, as greatly adding to the gravity of the case and as having a markedly lethal tendency.

Dr. SAVILL, referring to the desquamative complications of renal disease, said that his subsequent experience of the epidemic skin disease had led him to believe that renal disease constituted a marked predisposing cause to contract this disorder. Out of five or six cases which he had seen of these diseases concurrently not one had recovered, although the patients were in other respects favourable subjects for the skin disorder. He therefore regarded it as a most serious complication.

Dr. PYE-SMITH, in reply, gave reasons for not regarding these complications as of uræmic origin. The exfoliative variety was rare in his experience, but he thought it might very likely be related to the epidemic skin disease described by Dr. Savill.

Dr. PATRICK MANSON gave a demonstration on the Guinea-worm. After a brief description of the anatomy of dracunculus medinensis or guinea-worm, Dr. Manson pointed out that the views formerly held with regard to the way in which this parasite obtained access to the human body were erroneous. He showed that the guinea-worm parted with her embryos before she quitted the human host, and that the process could be provoked by simply pouring a little cold water on the limb in the neighbourhood of the guinea-worm ulcer. The water seemed to act as a stimulant to the worm, which could thus be induced to contract and expel the young through her mouth, the uterus being prolapsed for an inch or two. In this way Dr. Manson obtained a large supply of embryo guinea-worms and repeated Fedschenko's experiments with cyclops quadricornis, confirming the results of the Russian naturalist and somewhat extending them, and showing that the English cyclops was an efficient intermediate host of this parasite. The young guinea-worms on escaping from the uterus of the parent swim about in the water until they encounter a cyclops. They then attack the crustacean, boring their way between the ventral plates until they get into the body cavity. Here they move about quite freely, as many as ten or twenty lying together in the body cavity, and not apparently inconveniencing the cyclops. The embryo now casts its transversely striated integument along with the swimming tail, the latter giving place to a short conical stump. Later a second moulting takes place, eventuating in a tripartite tail, increase of size, and a somewhat more elaborate alimentary canal. The parasite enclosed in the cyclops is then transferred, probably in drinking water, to the human stomach. From the stomach, after digestion of the cyclops, the guinea-worm is supposed to work its way into the connective tissues of its host, and in the course of time to attain sexual maturity. Dr. Manson deprecates interference with the guinea-worm until she has emptied her uterus of embryos. He pointed out that she then tends to come out spontaneously. He also thinks that the new treatment by injection of perchloride of mercury solution in the neighbourhood of the guinea-worm sore may be useful in killing the worm and procuring her aseptic absorption. Four microscopic preparations were exhibited and also some lantern slides, showing the embryo guinea-worm in its free state, in the body cavity of cyclops, and at the conclusion of metamorphosis, seventy days after the parasite entered its intermediate host.

Dr. JOHN GALLOWAY gave a demonstration of lantern slides illustrative of the Pathology of the Skin Affections, chiefly vesicular and bulbous eruptions which arise in syringomyelia, based on two cases which he had observed. One of these cases had been attended in the early stage with the usual perversions of pain and heat sensations, and later developed trophic affections of the skin. The other had developed great deformity of the hands consequent on trophic changes in the phalanges and nails. Dr. Galloway attributed these and the skin changes to local causes.

After a few remarks from the PRESIDENT and Dr. SAVILL,

Dr. A. J. HARRISON narrated two interesting cases of Verruca Necrogenica, which had not, however, so far as could be discovered, had any origin in a post mortem examination or handling of dead carcases, such as is usual in these cases.

ETHICS.

Address by the President of the Section.

Dr. W. F. CLEVELAND, Consulting Physician to the Kilburn Dispensary, read an address, in which, after claiming that ethics cannot be neglected as a subject because they do not form a science, and quoting the views of many of the best known ancient and modern philosophers on the conduct of life, he came more particularly to medical ethics by saying:—In that branch of ethics with which we are more particularly concerned there can be little doubt that the *lex non scripta* has ever been highly efficient for the guidance of those members of the profession who could be styled in the true sense of the word gentlemen. But what has been euphemistically called "the difficulties of general practice"—a term which crystallised into plain language means too often "the struggle for existence"—has altered the general aspect of medical ethics. Keen competition arising from various causes, among which may be mentioned the overcrowded state of the profession, advanced general sanitation, which lessens the demand for our services, and the tendency among the educated to prescribe for themselves, and among the poorer classes to seek advice gratuitously or in the cheapest market, has for years been engendering a greater or less amount of moral laxity among our brethren, and so it has come to pass that a medico-ethical code has been framed with the view of correcting the errors of those who, through ignorance or carelessness or ambition, might be drawn from the path of rectitude and professional honour. Such a code or collection of rules and laws was first drawn up by Dr. Percival in 1807, and this has, with but slight alterations, formed the basis of the subsequent code of the American Medical Association, as well as that of the well-known and excellent work of Mr. Styrap. Now it would only be uttering a truism to contend that the ethics of our profession can be made to turn on any other pivot than that which is embraced in the great moral precept, "Whatsoever ye would that men should do unto you, even so do unto them." It may, I presume, be taken for granted that the civilisation and social development of the nineteenth century have created a platform for practical or applied ethics, and that a code, founded on the observations and experience of those who, by their position in the profession, are worthy of our respect, is not only necessary but likely to be appreciated. But it goes without the saying that for a medico-ethical code to work or bear fruit it is not only essential that we should acquaint ourselves with its rules and directions, but that we should show a ready allegiance to them while they remain in force; for, I take it, as reasonably might we expect a number of artisans or agricultural labourers, who had never seen a compass or studied a chart, to navigate a ship from London to New Zealand, as the members of our profession, in the present complex relations of society, to pursue their course with ethical precision without the aid of the written as well as the unwritten law. As in physical science Nature must be constantly interrogated or made the subject of experiment, so, in order to keep a medico-ethical code up to date, or make it suitable for ethics viewed as a progressive science, we must interrogate history and society, especially that portion of the latter occupied by our profession, and we must note with an open mind the experience of others as well as our own. By such means we may hope to deduce conclusions from which laws for guidance may be ultimately obtained. Under the term "medical ethics" is comprised such a large number of interesting questions that the attempt to discuss all of them on this occasion could not fail to be disappointing. In our programme we have selected some of the more prominent ones, in the hope that they may engage your best consideration, and that a friendly and dispassionate consensus of opinion regarding them may be arrived at, which shall have its proper weight and influence on the mind of our large Association and of the profession generally.

In conclusion, gentlemen, I would remark that we are living in a practical age—an age in which few projects are undertaken that have no *cui bono* in them. Now, what is the *cui bono* of this our Ethical Section? Shall I be too sanguine if I say we hope, through its means, to assist in raising the general status of the profession? In my opinion we shall do so if we can only make it our resolve to uphold, as far as possible, the reputation not only of our friends, but also of our legitimate or qualified competitors, when it is attacked, rather than by significant silence or innuendo to depress them to a level below ourselves. Depend upon it nothing sinks the profession in the estimation of the public more than their observance of the fact that too often we are a body pretending to a regard for honour and etiquette amongst ourselves, while our conduct proves that we are far from being at unity within ourselves. Again, may we not hope, as an outcome of this conference, to stimulate the cultivation of more friendly feelings towards each other, and thereby conduce to that equanimity and satisfaction which every right-minded person enjoys who is on good terms with his neighbour? And, lastly, may we not discover a *cui bono* in the very publicity that is given to ethics by the holding of this Section? Is not our meeting together on this occasion evidence of the conviction that a medico-ethical code to which we can agree is essential for our guidance in the fulfilment of those rights and duties which we owe to each other, ourselves, and the public?

Intra-Professional Etiquette.

Mr. T. GARRETT HORDER (Cardiff) then introduced for debate the subject of Intra-professional Etiquette. After expressing his great satisfaction at the formation of a section of Ethics he pointed out that the loyal and faithful observance of the rules of intra-professional etiquette had an importance which could scarcely be over-rated. It was absolutely necessary that medical men should show mutual consideration and sympathy, else they could hardly expect to escape unfair treatment on the part of the public. Moreover, if patients were made acquainted with the general rules which govern our professional life they would be more likely to avoid courses which tend to place medical men in unpleasant positions. The subject might be conveniently classified under three headings: (1) The etiquette of private practice; (2) that of club appointments; and (3) that of consultation. In the first place, there is no question as to the right of patients to change their medical attendants. In cases of incurable disease there is a natural anxiety on the part of sufferers to try every means which promises relief; they go from one practitioner to another, and it is from such patients that quacks extract large sums, for these gentlemen are troubled by no doubts or misgivings—their remedies are infallible and their charges are liberal. Before accepting a patient who has already been under the charge of a brother practitioner, we should make sure that the previous attendant has been informed of the intended change, and it is a good plan ourselves to communicate with him directly. When consulted by patients who are also members of a club, we should do nothing to embitter the relations between a club medical officer and his patients. Club practice is difficult to carry on, and becomes much more so when it is known that other medical men are willing to accept the office. With respect to the etiquette of consultations, it must be remembered that the relations between the public and specialists have undergone a great change. Formerly the consultant communicated the result of his examination to the family practitioner, but patients now consult specialists without making their intention known to their ordinary attendant. As a general rule, however, the consultant should enter into communication with the family practitioner. For meeting the cases in which the consultant has contrived altogether to supplant the previous attendant it is most desirable that a court of appeal should be instituted by which ethical questions might be examined and decided.

Mr. LEE (Cork) said that some time ago the medical officers of all the medical clubs in Cork resigned their appointments in consequence of abuses whereby wealthy persons were permitted to become members of clubs and obtain medical attendance for seven-and-sixpence a year. The appointments are now held by four imported medical men, whom the profession in Cork do not meet in consultation, and some anxiety is felt by the latter as to their proper course in the event of their attendance being requested on account of dangerous illness (such as post-partum hæmorrhages) among the patients of the club practitioners.

Dr. PEARSE said that the same question had arisen at Portsmouth, where there is an enormous medical club connected with the Dockyard. He thought that no such consultations should be held.

Mr. H. HEMMING urged that in any course that might be adopted due care should be taken that the lives of patients were not endangered.

Drs. HARRIS, WOODS, and MCNEE also took part in the discussion.

Advertising.

Dr. G. W. POTTER read a paper on Advertising. Having defined professional advertising as the public or private praising of a man in his professional capacity by himself or his agents for fame or gain, he observed that it is a vice from which the most highly placed members of the profession are by no means free, and that it is unreasonable to expect the man who takes 2*s.* fees to be ethically precise while the 2-guinea consultant advertises boldly and unashamed. No method of advertising is worked more energetically than the compilation of books. Can it be seriously maintained that the large number of medical works issued from the press are *bonâ fide* intended for the information and instruction of medical men? Some time ago a practitioner persuaded one of his patients to purchase a book which he had written. The price was a guinea, the book was highly technical, and no injustice is done to the author by assuming that his object was to advertise himself and his merits to the patient and the patient's friends. Another device was the leaving of cards at private residences, and a third was in connexion with newspaper paragraphs relative to the illness of prominent individuals. Some of these announcements were unobjectionable from the friends' point of view, but in too many instances the qualifications and the residence of the medical attendant were given with a fulness which left no doubt as to the ulterior motive. Another class of advertisers are the men who give certificates to vendors of foods and other commercial articles. These certificates are duly published in newspapers with many cunning additions. One gentleman in his widely advertised testimonial to the excellence of a certain food inserted the statement that it had been used by many of his influenza patients, of whom he had attended seven hundred without losing one. Another form of medical advertising which is very common and on the increase is the writing of books with catchy titles, which make a great show (of course with the author's name) in the publishers' lists given in the lay press. Needy practitioners in poor neighbourhoods seek to draw attention to themselves by methods of which the better class of tradesmen would be ashamed. There is a special demerit in professional advertising which must be plainly recognised both in order that no injustice may be done to our profession and in order that the public may be enlightened on the subject. The state of the case so far as it concerns the public is that the professional advertiser can by no means guarantee the results of treatment which are at least suggested in his advertisements. A commercial advertiser undertakes to deliver a certain article, and does so, whereas a medical man can only guarantee services—results he cannot guarantee. From the professional point of view, the advertiser takes an unfair advantage of his professional brother who does not advertise.

Unqualified Assistants.

Mr. GEORGE BROWN read a paper on Unqualified Assistants. He commenced by remarking that when he first entered the profession thirty years ago the employment of unqualified assistants was an ordinary proceeding, and that he himself while still a student had been assistant to a medical man. In various ways he came to see the disadvantages of the system, and in 1874 THE LANCET[1] published a letter written by him, the outcome of which was the formation of the Medical Defence Union, with Dr. (now Sir) Benjamin Ward Richardson as president. He (Mr. Brown) was for many years secretary of this association, and had ample opportunities of witnessing the results of unqualified practice. In some cases it was carried on with considerable success, the practitioners having been originally assistants to medical men under whom they had acquired much proficiency in the details of practical work. The system, however, abounded with opportunities for abuse, mainly in connexion with the working of branch practices not under the immediate control of the qualified principal, and there appeared to be no means of effectually dealing with the evil. It used to be said that the General Medical Council was concerned only with medical education and registration and not with such questions as this; but since 1886 the Council has taken notice of very gross cases of the employment of unqualified men, and several practitioners have been removed from the Register under the clause of the Medical Act which refers to infamous conduct in a professional respect. The employment of unqualified assistants is inadvisable both on personal and professional and public grounds. Examples of personal injury due to this cause are to be found in the cases where the purchaser of a practice fails to secure his predecessor's patients because the unqualified assistant, having lost his situation through the transfer, persuades them to put themselves under the care of some other practitioner, even one who may have been brought into the district by the assistant himself. Unqualified assistants who have been discharged have also been known to levy blackmail on their late employer on the ground of irregularity in certificates which the assistants themselves have partly filled up. In the second place, it is hardly necessary to remark that through the competition of unqualified assistants young medical men find it difficult to obtain employment, and are driven to such unprofessional courses as the distribution of handbills, and the formation of dispensaries. But the evil is greatest on public grounds. Many cases of permanent loss

[1] THE LANCET, Nov. 14th, 1874.

of health, or even loss of life, are attributable to unqualified practice. An enormous responsibility rests upon principals who render such things possible, and it is our obvious duty to discourage in every possible way the employment of unqualified assistants.

Mr. BRINDLEY JAMES continued the subject, expressing a somewhat more favourable view of the unqualified practitioners, and Drs. GREENWOOD, JOHN BROWN, and BRIDGWATER took part in the subsequent discussion.

THE CLINICO-PATHOLOGICAL MUSEUM OF THE BRITISH MEDICAL ASSOCIATION.

[FIRST NOTICE.]

Situated as it is at the very top of the Examination Hall, and with scarcely any announcement in the official publications of the Association, there are probably few who have done justice to the magnificent collection clinical and pathological material, gathered with so much pains into this temporary museum. We propose, therefore, to notice with some detail, first, the exhibits of morbid anatomy; secondly, the bacteriological exhibits; and, lastly, the patients who were shown each day.

Some idea may be gathered of the wealth of pathological material collected when it is mentioned that nearly all the museums of the Metropolis were visited and placed under contribution; and great credit is due to Messrs. Edgar Willet and J. H. Targett, who were charged with this enterprize. A descriptive catalogue, numbering 84 pages, adds greatly to the value of the collection.

The first Section, dealing with the results of operations on the urinary passages, illustrates the value of collecting a number of specimens from different sources. Nos. 1 to 24 are kidneys removed by operation, mostly with successful issue, for various forms of disease, amongst which may be mentioned cystic sarcoma, adenoma, hydro- and pyonephrosis, due chiefly to calculi, tuberculous disease (the case, a girl of seventeen, making a perfect recovery). It is interesting to note in passing that these specimens confirm the well-known fact that malignant disease (both sarcoma and carcinoma) is liable to involve the kidney in early life as well as beyond middle life, the major portion of the patients ranging from twelve months (sarcoma) to nineteen years, the others being from forty years upwards. Next comes a series of three very perfect specimens from different museums illustrating hydronephrosis of the kidney and dilated ureters consequent on calculus impacted in the bladder, stricture of the urethra, and congenital phimosis (a youth who died at seventeen).

The next series illustrates the results of operations on the alimentary canal, in which direction surgery has made such notable advances during the past year or two. Eleven specimens illustrate the results of gastro-jejunostomy, chiefly for malignant stricture, the patients surviving for periods varying from three days to eight months. In three of these Senn's bone-plates were used. In the case which survived three days the plates were still present, but in those who lived five and eight days they had entirely disappeared. Several cases of pylorectomy and resection of other portions of the alimentary canal for gangrene, injury, and disease are exhibited—a study of which is very instructive as to the different sutures and methods employed. Some lived for four months and longer periods, one of them (resection of cæcum for carcinoma) dying of double pneumonia nine months afterwards. One is a relatively successful suturing of the stomach after perforation of a simple ulcer. In another case of pylorectomy the patient only died two years later from influenza. One of the many dangers is revealed in another specimen, which was successful in the first instance, but the Murphy's button in passing down the intestine caused ulceration and perforation of the intestine ten inches below the resection, resulting in death twenty-eight days after the operation.

Specimens 82 to 91 illustrate the results of operations on the vermiform appendix, and the various foreign bodies and concretions around them which give rise to inflammation in and around this structure. Most of these cases made good recoveries. A large number of gall-stones and specimens of the various injuries to which they give rise form part of the collection. Many of these were large enough to result in intestinal obstruction, some were removed by cholecystotomy. Some were found post-mortem in the right pleura after death, whither they had passed by ulceration and caused empyæma. One large gall-stone, measuring four inches and a half in circumference, was successfully removed by enterostomy. These large gall-stones, more commonly than is generally supposed, give rise to intestinal obstruction, and a collection is shown which were passed per anum.

The next series is a remarkable collection of foreign bodies which had passed through, or been impacted in, the intestines, such as a dessert spoon, a button hook, several tooth plates, an egg cup, and a porcelain jar measuring two inches in diameter. The latter had been inserted by the patient into the rectum to allay anal itching. Its removal was only effected after abdominal section and other procedures, which set up a fatal peritonitis.

Various new growths and other lesions of the larynx are well represented, and include the left ala of the thyroid cartilage removed for carcinoma from a well-known legal gentleman, who survived the operation seven years.

Diseases of the joints are not numerously represented, but the specimens are of great interest, for they illustrate syphilitic lesions. They present the very characteristic appearance of deep crescentic erosions of the cartilaginous surfaces, with sharp edges, having a worm-eaten appearance. Altogether six specimens of this rare and interesting condition have been collected f.om the Royal College of Surgeons, St. Bartholomew's and St. Thomas's Hospitals, and the private collection of Mr. Davies-Colley.

Specimens 191 to 245 form a very perfect series of intracranial tumours of great interest in view of the attention now paid to this department of surgery. All of these repay careful study, but we have only space to notice a globular fibroma measuring nearly two inches in diameter, occupying the motor centres of arm and leg in the right hemisphere of a patient who died of double pneumonia. There were absolutely no symptoms referable to brain disease during life, a fact which only receives partial explanation from the slow-growing nature of this tumour. Six specimens illustrate simple cysts of the cerebellum, the origin of which disease is still a matter of dispute. Tumours of the spinal cord are also well illustrated, with the exception of syringo-myelus, of which there is only one specimen.

An excellent series of injuries to the epiphyses is to be found in numbers 264 to 282, and a very complete set of specimens illustrating various fractures of and injuries to the neck of the femur has been lent by Sir William Stokes which, unfortunately, arrived too late for mention in the catalogue.

Illustrations of all the lesions known to arise from actinomycosis, both in man and animals, have been collected from all available sources, and next to them come thirteen bottles of Madura hands and feet, a disease closely allied to, if not identical with, actinomycosis—another example of the care and scientific knowledge with which these specimens have been selected and arranged. Then, in natural order, come a series showing the various tuberculous, anæsthetic, and trophic lesions of leprosy, and another foreign disease, Ainhum, endemic to the west coast of Africa, which produces constrictions and loss of fingers and toes, resembling leprosy in all respects, except that the parasite differs notably in its form and life-history. Some perfect specimens of bilharzia hæmatobia conclude the Foreign Section.

Nos. 335 to 364 illustrate hydatid disease of almost every viscus in the body—liver, brain, lung, heart, peritoneum, spleen, kidney, spine, long bones, &c.—and show the various stages through which these diseases pass and the accidents to which they may give rise. Rare tuberculous affections ,chiefly ulceration, of the stomach, peritoneum, pleura, tongue, and other organs are also exhibited. Nos. 379 to 407 form a series of congenital affections of the heart, not only patent foramen ovale, which is most common, but all other known conditions.

Specimens of acromegaly and the constant concurrent conditions of enlarged pituitary body follow next, and then a series of the senile symmetrical thinning of the calvarium, together with a specimen of the same condition in the ourang-outang, which is one of the reasons for refuting the supposition that this change arises as a consequence of syphilis or the carrying of weights on the head.

Specimens of the bones in Barlow's disease (scurvy rickets), hermaphrodism, gynæcology, the injuries to infants during parturition, and a large series of calculi removed by Mr. Henry Morris, and lent by the Middlesex Hospital, complete a pathological collection of which, for the purpose of

interest to the practitioner as distinct from a purely educational series, London may well be proud.

We propose to notice next week the bacteriological and clinical portions of the museum.

THE MUSEUM.

The exhibits of the twenty-eighth annual museum were shown for the most part on the first-floor of the examination-hall—for the most part since, owing evidently to the great number of applications for space, some were assigned a place in the rooms of King's College, while the curious and unique collection of medical, surgical, and pharmaceutical antiquities exhibited by Messrs. Oppenheimer were set apart in the Victoria rooms of the adjoining Savoy Hotel. This collection, which attracted so much attention, has been made by Dr. Luigi Sambon of Rome, who, under the instruction of the Italian Government, has commenced a work on the History of Medicine for presentation at the next meeting of the International Medical Congress. The collection is chiefly composed of surgical instruments, which date from the first to the fifteenth century, and terra-cotta votive offerings of ancient Italy. Of more modern times, but of equal interest to the visitors, was the case exhibited by Messrs. Burroughs, Wellcome and Co., containing the famous Jenner relics. Amongst them were a portrait and miniature of the discoverer of vaccination, a small medicine cabinet, hair from the tail of the first cow that furnished virus for vaccine inoculation, lancet cases, vaccine points, and the chair in which Jenner breathed his last. Further on was to be seen the case of instruments which belonged to and was carried through Africa by Dr. Livingstone, and other medical relics connected with this great explorer. A still more recent relic shown by this firm was the famous Stanley chest, which contained the medicines employed in the Emin Relief Expedition. Except for some illustrations of ancient surgical instruments and methods shown amongst a few others by Messrs. Southall Brothers and Barclay (of Birmingham), there were no other exhibits possessing any particular historical interest; we pass, therefore, to the display of those things which may be taken to illustrate the rapidly increasing requirements of modern medicine, towards the advance of which mechanical skill and the enormous progress which pharmacy of late years has made, contribute not a little. For this purpose we may classify the exhibits under the following heads: (1) Drugs and their various administrative forms; (2) Medical and Surgical Appliances; (3) Special Foods and Food Adjuncts; (4) Sanitary Appliances; (5) Mineral Waters, Beverages, &c.; (6) Miscellaneous; and (7) Literature.

I.—DRUGS.

Notable progress has been made in the preparation of the organic remedies of animal origin, and it is to be observed with considerable satisfaction how fully alive the bulk of manufacturing chemists are to the importance of organic extracts being of a standard and thoroughly reliable order. Messrs. Burroughs, Wellcome and Co. (of Show-hill, E.C.), for instance, have been remarkably successful in providing a permanent substitute for the aqueous alcoholic and glycerine extracts. Thus tabloids representing the whole substance of the organ from which they are prepared, so insuring the presence of the active principle, are now made embodying the extracts of thyroid gland, thymus gland, supra-renal substances, ovarian substance, didymin (orchitic substance), cerebrinin, pituitary body, kidney substance, spleen substance, uterine wall substance, bone medulla, and pineal gland. A dry variety of anti-diphtheritic serum, in the form of brilliant non-deliquescent scales, is also supplied. Messrs. Allen and Hanburys (of Plough-court, Lombard-street, E.C.) make also reliable preparations of animal extracts, notably thyroidin in the form of powder to be administered as cachet, or tablet, or as a liquid in their elixir. Typical of these are the grey matter of the brain, bone marrow extract, thymus gland extract, and so on, while this firm have also in hand the disposal of the antitoxins prepared by the British Institute of Preventive Medicine. With the stamp of approval of experimental investigation upon them are the similar preparations of Messrs. Willows, Francis, and Butler (of 100, High Holborn), who have given special attention to this important line of manufacture, extractum corticis cerebri, supra-renal preparations, pituitary body, thyroid extract, pancreatic extract, orchitic extract, being amongst the new therapeutic agencies of this class which they prepare. Evidence again of the necessity which large druggists have found of adding a bacteriological laboratory to their equipments is afforded in the anti-diphtheritic serum of Messrs. Parke, Davis and Co. (of North Audley-street, W.), the strength of which is determined by Behring's method, while every precaution known to science is taken to insure its sterility. Pure sterilised culture media are also supplied by this firm. Desiccated thyroids—one gland equals twelve grains—prepared from fresh healthy glands, carefully dried and freed from grease, are supplied, too, by Messrs. Armour and Co. (of Chicago), the excellence of whose laboratory products is well-known. The extract is procurable in the convenient form of tablets of five grains, each being equivalent to one-third of an entire healthy gland. The ingenious palatinoids of Messrs. Oppenheimer and Co. (of Worship-street, E.) afford again not only an excellent means of administering the organic extracts, but also of preserving them from change. Thus enclosed in the tiny, watch-glass, air-tight jujube are to be found thyroid, thymus, supra-renal, red bone medulla, and pituitary body substances. Organic extracts were also amongst the very long list of preparations shown by Messrs. Ferris and Co. (of Bristol). Every possible care is taken to make them reliable since each gland is minutely examined before being used, and all diseased lobes are rejected while every appliance used during the process is kept jealously sterilised.

Coming to those drugs which, in contrast to the remedies just described, are of chemical and botanical origin, we may first notice the various and multifarious administrative forms in which they are now fashioned and with a distinctive form of which so many firms are identified. Messrs. Burroughs, Wellcome & Co., for example, have placed at the practitioners' disposal almost every known remedy in the form of tabloid. Amongst the recently added we may mention the Blaud's pill tabloid, aural tabloids, nasal tabloids, tea tabloids, photographic tabloids, soloids (tabloids of mercuric chloride convenient for preparing an antiseptic mercurial solution of the strength recommended by the Local Government Board Memorandum of 1892). Under the name of tabellæ Messrs. Allen and Hanburys possess a list well-nigh replete with the remedies of the Pharmacopœia. Amongst those which call for special mention are those containing bitter medicines, coated with sugar, as cascara, quinine, &c. Other tabellæ are made, which, consisting of sparingly soluble substances, like bismuth, sulphonal, &c., are so prepared as to readily disintegrate on coming in contact with moisture. Hypoderms or tabellæ, which dissolve instantly without the aid of either heat or trituration, are admirably adapted for the ready and rapid preparation of a solution for hypodermic purposes. Convenience and ease of administration of drugs in loose powdered form are again exemplified in the palatinoid of Messrs. Oppenheimer, while there are obvious advantages in the ingenious bipalatinoid, in which two drugs may be kept apart until they are administered, when the ingredients react, producing the new and freshly obtained medicament, as for instance, carbonate of iron from carbonate of soda and sulphate of iron (Blaud's formula), arseniate of iron from arseniate of soda, and sulphate of iron and so on. Novelties of administrative form are illustrated again in the admirable gelatine lamels of Messrs. Savory and Moore (of New Bond-street) which consist of small gelatine sheets ruled in squares and impregnated with the required medicament, each square containing a definite quantity. Thus the quinine sulphate lamel contains one grain of the drug in each square. Worthy of special mention also are the elegant preparations of the same firm—gelatine ophthalmic discs. First prepared by Messrs. Savory and Moore, these convenient and absolutely clean means of applying drugs for ophthalmic purposes have come into extensive use. They consist of delicate films of soft gelatine impregnated with a perfectly definite weight of the medicament. Accuracy of dosage, constancy and reliability of composition, are the advantages secured by the method of Messrs. Duncan, Flockhart & Co. (of Edinburgh), which is illustrated in their capsules, cachets, and permanently plastic pills. The Blaud capsules, for example, never harden, and contain 92 per cent. of iron in the ferrous condition. The Morstadt cachet shown by Messrs. Thomas Christy and Co. (of Lime-street, E.C.) is another well-known means of exhibiting medicaments, and consists of sunk discs of rice-paper. A very large and excellent variety of preparations in capsules, tablets, sugar-coated pink granules, ophthalmic and hypodermic tablets, tablet triturates were amongst the

brilliant show of Messrs. Parke, Davis and Co. The "triturates" containing the finest materials, are claimed to be permanent, soluble, and therapeutically efficient. No less than eighty varieties of medicinal capsules of soluble gelatine occur in the well-stocked list of Messrs. Ferris and Co. (of Bristol), who also prepare soluble pearl- and gelatine-coated pills, as well as tablets of compressed drugs. Messrs. Cooper and Co. (of Gloucester-road, South Kensington) have recently introduced a novel and important departure in cachets. Thus delicately coloured cachets are prepared, or white cachets upon which is printed a neat inscription indicating the nature and quantity of the contents. The printing is executed either upon the ordinary white cachets or upon those of which the paste is previously tinted the desired colour. The colours employed are perfectly harmless, and comprise pale or dark rose, carmine, garnet, sky blue, pale salmon, &c. The process is elegant and the product the perfection of cachets. The pills and pastils, and especially the latter, afford additional evidence of the elegance and superiority of the specialities and administrative forms of drugs shown by this firm. A large variety of capsules of desirable flexibility and solubility, including Blaud's pill, salol, guaiacol, cascara, and other drugs, were amongst the improved pharmaceutical preparations of Messrs. C. J. Hewlett and Son (of Charlotte-street, E.C.). Capsules of creolin for internal use were exhibited by Jeyes' Sanitary Compounds Company (of Cannon-street, E.C.). Every kind of convenient administrative means of exhibiting drugs were comprised in the productions of Messrs. Robertson and Co. (of Edinburgh) amongst those calling for special notice being the excellent flexible gelatine ferruginous capsule, the elegant "gelatine perles" of apiol, calcic sulphide, &c., capsules for export, glyco-gelatine pastils of various combinations, and compressed drugs. Specialities of the same class occurred also in the exhibit of admirably designed, soluble, transparent, capsuled, pearl-coated, and sugar-coated pills and granules of Messrs. Mackey, Mackey and Co. (of Grange-road, Bermondsey, S.E.). Several of the excellent pharmaceutical preparations of Mr. W. Martindale (of New Cavendish-street, W.) consisted of pastils, pilules, and granules, capsules, gelatinous medicated chocolate, and other forms calculated to afford ease and convenience of administration, while with the same aims in view were the cachets, compressed pellets, tincture pellets, pearl-coated pills and pilules, oval gelatine pills, and the flexible and soluble gelatine capsules comprising the excellent specimens of pharmaceutical elegance and skill of Messrs. Wyleys & Co. (of Coventry and Birmingham). Lastly the tablets, parvules, and granules of Messrs. F. Newbery and Sons (of King Edward-street, E.C.) including preparations of ingluvin, the digestive substance of the gizzard of the chicken, which has the remarkable property of arresting certain kinds of vomiting (notably that of pregnancy), demand attention.

We may next review the new remedies and the various improvements connected with the preparation of drugs which came before our notice. Several were to be observed claiming special features, or some novelty or improvement in regard to such important points as therapeutic activity, certainty of action, and so forth. In this connexion the step recently taken by Messrs. Duncan, Flockhart & Co. of supplying chloroform containing about 1 per cent. of alcohol is one of the first importance, since, as they state, while this addition has no effect in diminishing its anæsthetic power, it renders the chloroform practically non-decomposable under any circumstances. The specific gravity of the new product becomes thus reduced to 1,490, a fact which should be borne in mind when chloroform is ordered from the firm. Amongst the new and recent remedies supplied by Messrs. Allen & Hanburys are acidum boricum, which in doses of 10 to 15 grains is said to be of use in typhoid fever, and may be given with antifebrin, quinine, naphthalin, or salol; acidum lacticum is of benefit in diarrhœa, half a tumblerful of a 2 per cent. solution to be taken twice daily; agathin, a salicyl-methyl-phenylhydrazine in the form of pale greenish laminæ free from taste and smell, which possesses marked antineuralgic properties, for which it is administered in half-grain doses; analgen for neuralgia is tasteless and as much as forty-five grains may be given in the twenty-four hours; benzene, pure or mixed with lard, offers a successful means of treating scabies, especially, it is said, when complicated with eczema; byno-cascara, a palatable and active preparation of cascara sagrada combined with malt extract, which by its diastatic action on starch foods tends to act as a laxative; cactus grandiflora, useful in functional disorders of the heart, especially in the distressing palpitation arising from reflex irritation in dyspepsia and in "tobacco heart"; chloralose, a compound of chloral and glucose, is serviceable in insomnia due to overwork or over-excitement, but is not of much use where sleeplessness is due to pain; it is conveniently given in cachets.

(To be continued.)

Medical News.

UNIVERSITY OF GLASGOW.—The following candidates had the degrees named below conferred on them on July 25th:—

DOCTORS OF MEDICINE (M.D.).

I. WITH HONOURS.

Monro, Thomas Kirkpatrick, M.A., M.B., C.M., Scotland.

II. WITH COMMENDATION.

Banks, Chas., M.B., C.M., Scotland.
Bell, Andrew Lees, M.B., C.M., Scotland.
Campbell, Finlay Stewart, M.B., C.M., Scotland.
Charles, John, M.B., C.M., Scotland.
M'Gregor, John, M.B., C.M., Scotland.

III. ORDINARY DEGREE.

Gardiner, P., M.B., C.M., Scotland.
Hay, Archibald Gilchrist, M.A., M.B., C.M., Scotland.
Macklin, Thomas Thornton, M.B., Scotland.
Macphail, James Merry, M.A., M.B., C.M., England.
Robb, James Jenkins, M.B., C.M., Scotland.
Smith, James, M.B., C.M., Scotland.
Wilson, James Allan, M.B., C.M., Scotland.

BACHELORS OF MEDICINE AND MASTERS IN SURGERY (M.B., C.M.).

I. HONOURS.

*Ferguson, Joshua, M.A., Scotland.
Pattullo, Henry Alexander, Scotland.
Walker, Ernest Alex., M.A., Scotland.

* Mr. Ferguson gains the Brunton Memorial Prize of £10, awarded to the most distinguished graduate in medicine of the year.

II. HIGH COMMENDATION.

Scobie, William, B.D., Scotland.
Stewart, Alexander Hamilton, Scotland.
Watson, Henry Allan, M.A., Scotland.
Howie, Robert, Scotland.
Lang, William Henry, B.Sc., England.
Young, Archibald, B.Sc., Scotland.

III. COMMENDATION.

Barr, Robert Brownlee, Scotland.
Stevenson, Alexander, Scotland.
Cowan, Samuel Donaldson, M.A., Scotland.
Lawson, William, Scotland.
Macrae, Farquhar, Scotland.
Fraser, Robert Mackechnie, M.A., Scotland.
Stuart, Emmeline Marie, Scotland.
Miller, Robert King, Scotland.
Watson, Malcolm, Scotland.
Anderson, John Lindsay, Scotland.
Muir, Adam Cubie, Scotland.
Bell, Thomas, Scotland.
Cormick, Frederick Burdett, Scotland.
Mowat, George, Scotland.
Miller, William Duncan, Scotland.
Alexander, William, Scotland.
M'Cash, James, Scotland.

IV. ORDINARY DEGREES.

Abbott, John Carson, U.S., America.
Adam, James, Scotland.
Allan, William, Scotland.
Anderson, Arthur Roland, Newfoundland.
Anderson, John, Scotland.
Anderson, John James Stevenson, Ireland.
Armstrong, Thomas, Scotland.
Baird, William Stephen, New Zealand.
Barker, Francis James, M.A., Scotland.
Blair, Alexander, Scotland.
Boedeker, Henry Albert, Burmah.
Burns, William, Scotland.
Campbell, Thompson, Scotland.
Chang, Vivian Ernest, China.
Clow, William, M.A., B.Sc., Scotland.
Cumming, John, Scotland.
Davies, Henry, Wales.
Divine, John, Scotland.
Donaldson, William, Scotland.
Dunning, Matthew, Scotland.
Edwards, Richard John, Wales.
English, Samuel, Ireland.
Findlay, James, Scotland.
Findlay, William David, Scotland.
Finkelstein, Albert Alfred, Russia.
Forrest, James Liddell, Scotland.
Forster, James, England.
Foulds, James Reid, Scotland.
Galloway, Andrew Fleming, Scotland.
Garrett, Thomas Cleator, Isle of Man.
Gillan, John, M.A., Scotland.
Graham, Walter, Scotland.
Grove, William, Scotland.
Hay, William, B.D., Scotland.
Holt, Arthur, England.
Hughes, Albert Barnes, England.
Jack, James, Scotland.
Jackson, John William, Scotland.
Jubb, George, Scotland.
Kerr, David, England.
Kerr, William James, Scotland.
Kirkhope, David Connor, Scotland.
Kirkwood, John, Scotland.
Lewis, David, Wales.
Louttit, John Dunlop, Scotland.
Mulholland, James Andrew Dixon, Ireland.
Munro, Donald, Scotland.
M'Coll, Daniel, Scotland.
M'Cormick, William Milligan, Scotland.
M'Donald, Duncan, Scotland.
Mackinnon, William Jones, Scotland.
MacLachlan, Lewis, Scotland.
M'Laren, Hugh, Scotland.
MacLay, Moses Neil, Scotland.
Macleod, William, Scotland.
M'Pherson, George, M.A., Scotland.
Oliver, Archibald Russell, Scotland.
Primrose, Edward James, M.A., Scotland.
Rae, John Broadfoot, Scotland.
Rankin, John, Ireland.
Robertson, John Neil, Scotland.
Sandilands, James, Scotland.
Smith, James, Scotland.
Sproull, James, Scotland.
Stevenson, Hugh, Scotland.
Stewart, Alexander, Scotland.
Stewart, James, Scotland.
Stirling, James, Scotland.
Thomson, Hugh Wright, Scotland.
Toland, Charles Kirk, Ireland.
Wolverson, Frederick, England.

VICTORIA UNIVERSITY.—The following candidates passed in the Final Examination of the Faculty of Medicine in July last:—

Part I.: G. Ashton, Owens; W. S. Badger, University; F. J. Batten, R. Bleasdale, H. M. Brown, A. H. Burgess, J. B. Clarke, H. Coates, and C. Coventry, Owens; H. M. Crake, University; P. H. Fearnsides, Yorkshire; H. Hamer, E. Hutton, W. F. Jackson, K. H. Jones, and A. T. Lakin, Owens; J. G. Martin, University; E. Monks, N. Neild, W. H. S. Nickerson, A. E. Normington, and J. S. Ross, Owens; S. T. Rowling, Yorkshire; E. A. Smith, University; L. Tong, Owens; A. A. Wood, University; and J. Wood, H. B. Woodcock, and H. C. Woodhouse, Owens.

Part II.: A. V. Davies, U. L. Desai, A. Greenwood, R. S. Hardman, and F. B. G. Holmes, Owens; C. E. Ligertwood, Yorkshire; J. P. Lowe, A. McDougall, J. T. Marsden, T. H. Miller, F. C. Moore, and J. H. Renshaw, Owens; J. V. Shaw and R. H. Trotter, Yorkshire; and B. V. Watkins, Owens.

The following were awarded Honours:—Class I. C. E. Ligertwood, Yorkshire; and F. C. Moore, Owens. Class II. R. S. Hardman, F. B. G. Holmes, T. H. Miller, and J. H. Renshaw, Owens; J. V. Shaw and R. H. Trotter, Yorkshire; and B. V. Watkins, Owens.

The Diploma in Sanitary Science was awarded to M. Parkinson and F. W. Sydenham.

BRITISH INSTITUTE OF PUBLIC HEALTH.—The annual dinner of the British Institute of Public Health was held on Wednesday, the 31st ult., at the Holborn Restaurant. Professor W. R. Smith was in the chair, and the company included Lord Playfair, the Japanese Minister, Sir Douglas Galton, Archdeacon Sinclair, and Sir George Kekewich.

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.—The summer general meeting of the above association was held at King's College on Wednesday July 31. The chair was occupied by Dr. H. H. Phillips, Conn. (President). The attendance was a very large one, including Sir Thomas Crawford, K.C.B. (Chairman of Council), Dr. William Thomson, Vice President of the Royal College of Surgeons, Ireland, Surgeon-Major Ulick J. Bourke, Dr. Abraham, Dr. A. H. Benson (Dublin), Dr. J. Davison (Bournemouth), Dr. R. Fegan, (Blackheath), Dr. E. D. Mapother, Mr. R. O'Callaghan, Dr. S. A. K. Straban, Mr. G. Stoker, Dr. W. H. White, and the Honorary Provincial Secretary (Mr. J. Stewart, F.R.C.P. Edin.), besides several visitors. The Hon. Provincial Secretary having given a *résumé* of the past action of the Council in reference to disabilities of Irish diplomates in connexion with honorary appointments in English public hospitals, Dr. Thomson moved, Dr. Abraham seconded, and it was carried unanimously, that a further effort be made on the first opportunity to reduce the number of English public hospitals in which honorary appointments on the staff are restricted to those holding English diplomas. Dr. Arthur H. Benson moved, Mr. Robert O'Callaghan seconded, and it was carried unanimously, that a special fund (to be called the "Hospital Appointments Fund") be raised forthwith to cover expenses connected with the abolition of hospital monopolies. To this fund a sum of nearly £50 was subscribed by those present at the meeting, which was thereupon adjourned.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

BOWKETT, W. D., M.R.C.S. Eng., has been appointed Surgeon to the Winton Hospital, Queensland, vice Wellford.

BURNS, THOMAS, L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Superintendent of the Lunatic Asylum at Porirua, near Wellington, New Zealand.

CLARIDGE, H. A. H., M.B., B.S. Durh., has been appointed Medical Officer for the Norton Canes Sanitary District of the Cannock Union.

COLYER, ARTHUR R., M.R.C.S., L.R.C.P., L.D.S., has been appointed Assistant Dental Surgeon to the Dental Hospital of London.

CROOM, J. H., M.D., C.M., F.R.C.P., F.R.C.S. Edin., has been appointed Physician to the Edinburgh Royal Maternity and Simpson Hospital.

DAVIS, W. H., M.R.C.S., has been appointed Medical Officer of Health for the Culmstock Rural Sanitary District, vice Randolph.

DOUGHTY, WM., L.R.C.P., L.R.C.S., L.M. Edin., has been appointed Medical Officer of Health for the Chillington Sanitary District of the Kingsbridge Union.

DYER, BERNARD, has been appointed Analyst for the County of Rutland, vice Emmerson, deceased.

EATON, JOSEPH, L.R.C.P. Irel., L.R.C.S., L.M., has been appointed Government Medical Officer and Vaccinator for the district of Rylston, New South Wales.

FENTON, JAS. L., M.B., C.M. Edin., has been appointed Health Officer for the Omeo Shire, Victoria, Australia.

FOOKS, E. E., M.B. Univ. New Zeal., has been appointed Medical Superintendent of the Lunatic Asylum at Wellington, New Zealand.

FOX, WALTER, M.B., C.M. Glasg., has been appointed Government Medical Officer and Vaccinator for the district of Narandera, New South Wales.

GARDE, H. C., L.K.Q.C.P. Irel., L.R.C.P., L.R.C.S. Edin., has been appointed City Health Officer, Queensland.

HEARDER, FREDERIC P., M.B., C.M. Edin., has been appointed Second Assistant Medical Officer to the West Riding Asylum, Wakefield, vice Mr. Craig, resigned.

HEATHCOTE, H. C., M.B., Ch.B. Vict. (Owens College), has been appointed Medical Officer and Public Vaccinator for the Tiverton Sanitary District.

HOLTS, A. K., M.R.C.S. Eng., has been appointed Government Medical Officer and Vaccinator for the district of Burrowa, New South Wales.

HOGG, C. A., M.B., M.S. Edin., has been appointed House Surgeon to the Launceston Hospital, Tasmania.

HOLMES, L. S., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Health Officer for the Port of Launceston, Tasmania.

HINDER, H. V. C., M.B., Ch.M. Syd., has been appointed Honorary Assistant Surgeon at the Prince Alfred Hospital, Sydney, New South Wales.

HUNTER, DAVID, has been appointed Fourth Assistant Medical Officer to the West Riding Asylum, Wakefield, vice F. O. Simpson, promoted.

JAMES, D. P., M.R.C.S. Eng., F.R.C.S., L.R.C.P. Lond., has been appointed Health Officer for the Port of Wellington, New Zealand.

JERMYN, FRED. D., M.B., Ch.B. Melb., has been appointed a Public Vaccinator in South Australia.

KEITH, ARTHUR, M.D. Aberd., M.S., F.R.C.S. Eng., has been appointed Senior Demonstrator of Anatomy at the London Hospital Medical School.

LYLE, H. WILLOUGHBY, M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Lecturer in Animal Biology and Demonstrator of Physiology at King's College, London, vice Brodie, resigned.

MACBIRNIE, STUART, M.B., Ch.M. Glasg., has been appointed Medical Officer to the Coal Creek Miners at Korumburra, Victoria, Australia.

MACKAY, J. S., M.D. St. And., D.P.H. Edin., has been appointed Medical Officer for Kirkcaldy.

MACHATTIE, T. A., M.B., Ch.M. Edin., has been appointed by the Railway Commissioners Local Railway Medical Officer for the Bathurst District, New South Wales.

MACKINTOSH, ARTHUR, M.B., C.M. Edin., has been appointed House Surgeon to the Northern Infirmary, Inverness, vice Williamson, resigned.

NEALE, A. J., M.D., Ch.M. Edin., has been appointed a Public Vaccinator for the District of Palmerston, North, New Zealand.

PALMER, M. H. C., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Second Sanitary District of the Newbury Union.

PATTESON, R. GLASGOW, M.B., B.Ch. Dub., F.R.C.S. Irel., has been appointed Surgeon to the Meath Hospital and County Dublin Infirmary, vice Sir G. H. Porter, Bart., deceased.

REILLY, F. B., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Billinge Urban Sanitary District, vice Molyneux, deceased.

ROBERTS, F. H., L.R.C.P. Lond., M.R.C.S., has been reappointed Medical Officer of Health for the Llandrindod Wells Urban Sanitary District.

ROWLANDS, GEO. H., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Government Medical Officer and Vaccinator for the District of Narromine, New South Wales.

TAYLOR, J. W., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer of Health for the Methley Urban Sanitary District, vice Wigan.

SIMPSON, FRANCIS O., L.R.C.P., M.R.C.S., has been appointed Pathologist and Third Assistant Medical Officer to the West Riding Asylum, Wakefield, vice W. le Andriezen, resigned.

ROOCROFT, W. MITCHELL, M.R.C.S., L.R.C.P., has been appointed Consulting Surgeon to the Lancashire and Cheshire Nurses' Permanent Relief Society, vice Barnish, deceased.

VOELCKER, ARTHUR F., M.R.C.P., M.D. Lond., M.R.C.S., has been appointed Assistant Physician to the Middlesex Hospital.

WAKELAM, R., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer of Health for the Springhead Urban Sanitary District, vice Andrew, resigned.

WATSON, A. H. H., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed a Public Vaccinator at Port Broughton, South Australia.

WEEKES, F. H., M.R.C.S., has been appointed Fifth Honorary Medical Officer of the York Dispensary.

WILKINS, JOHN, F.R.C.S. Edin., M.R.C.S. Eng., has been appointed a Surgeon to the Permanent Militia at Auckland, New Zealand.

WILLS, C., M.R.C.S., has been appointed Medical Officer by the District Council for Blyth and Cuckney.

WILSON, THOMAS, M.D. Lond., B.S., F.R.C.S., has been appointed Honorary Medical Officer of the Birmingham Lying-in Charity.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

CHARING-CROSS HOSPITAL MEDICAL SCHOOL, 62, Chandos-street, W.C.—Lectureship on Physiology. A minimum of £300 a year is guaranteed for the teaching of physiology, in addition to a grant for working expenses.

CONVALESCENT FEVER HOSPITAL, Gore Farm, Darenth, Kent.—Dispenser. Salary, £5 a month, with board, lodging, and washing. Applications to the Medical Superintendent at the hospital.

CUMBERLAND INFIRMARY, Carlisle.—House Surgeon, for one year. Salary, £70 per annum, with board, lodging, and washing.

DURHAM COUNTY ASYLUM.—**Pathologist and Junior Medical Officer.** Salary £100 per annum, with board and lodging. Applications to the Superintendent, Durham County Asylum, Winterton, Ferryhill.

EAST SUFFOLK AND IPSWICH HOSPITAL, Ipswich.—**Second House Surgeon,** unmarried. Salary £70 per annum, with board, lodging, and washing.

INFIRMARY OF THE CITY OF LONDON UNION.—**Assistant Medical Officer** at the Infirmary of the Union, situate in the Bow-road. Single, or widower without children. Salary £160 per annum, with furnished apartments at the infirmary, rations, and washing. Applications to the Clerk to the Guardians, 61, Bartholomew-close.

LINCOLN COUNTY HOSPITAL, Lincoln.—**Assistant House Surgeon** for six months. An honorarium of £10, subject to the approval of the weekly Board, and board, residence, and washing provided.

PARISH COUNCIL OF NORTHMAVINE, Shetland.—**Medical Officer.** Salary £40. Applications to the Clerk, Parish Council, Northmavine.

ST. LUKE'S HOSPITAL, London, E.C.—**Clinical Assistant** for six months. Board and residence provided.

STOKE NEWINGTON, CLAPTON, WEST HACKNEY, AND DALSTON DISPENSARY, 108, High-street, Stoke Newington, N.—**Resident Assistant House Surgeon.** Salary £50 per annum, with board and lodging.

Births, Marriages, and Deaths.

BIRTHS.

ALCOCK.—On July 21st, the wife of Richard Alcock, M.D., Burlington-crescent, Goole, of a daughter.

ANDREWS.—On July 25th, at R.N. Hospital, Haslar, the wife of Surgeon O. W. Andrews, Royal Navy, of St. Briavel's, Glos., of a daughter.

BLUCKE.—On July 24th, at Rowberry, Donhead, St. Andrew, the wife of Fredk. H. S. Blucke, M.R.C.S. Eng., L.R.C.P. Lond., of a son.

FLINT.—On July 30th, at Westgate-on-Sea, the wife of Arthur Flint, M.D. Brux., L.R.C.P. Lond., M.R.C.S., J.P., of a daughter.

HEATH.—On July 28th, at Cavendish-place, Cavendish-square, W., the wife of Charles Heath, F.R.C.S., of a son, who survived his birth only a few hours.

HEYWOOD.—On July 24th, at Lower Bank, Darwen, the wife of T. W. Heywood, L.K.Q.C.P. Irel., M.R.C.S., of a son.

JONES.—On July 22nd, at Stokesley, Yorks, R.S.O., the wife of Arthur Jones, M.R.C.S. Eng., L.R.C.P., of a son.

MACEVOY.—On July 24th, at 41, Buckley-road, Brondesbury, London, N.W., the wife of H. J. Macevoy, M.D., B.Sc. Lond., of a daughter.

MAPLESON.—On July 28th, at Nottingham-place, W., the wife of Horsley Mapleson, M.R.C.S. Eng., of a son.

MOORE.—On July 9th, at Story-hill, St. Andrew, Jamaica, the wife of York Moore, L.R.C.P. Edin., M.R.C.S., of a son.

RUSSELL.—On July 23rd, at Queen Anne-street, W., the wife of John Ronaldson Russell, M.R.C.S., L.R.C.P., of Quebec House, Westerham, Kent, of a daughter (prematurely).

MARRIAGES.

ANGEL-MONEY—DOWDELL.—On June 12th, at St. John's, Darlinghurst, Sydney, N.S.W., Angel-Money, M.D. Lond., F.R.C.P. Lond., of Hunter-street, Sydney, to Amy Mona, daughter of the late Charles Dowdell, Esq., of Hawthorn, Victoria.

HAKE—BALDWIN.—On July 25th, at St. Mary the Virgin, Prittlewell, James Hake, M.R.C.S. Eng., L.R.C.P. Lond., to Rose, second daughter of James William Baldwin, of West Cliff, Southend.

MARCH—MANNING.—On July 27th, at Laverstock Church, near Salisbury, Joseph Ogdin March, M.R.C.S., L.R.C.P. of St. John's House, Lechlade, Gloucestershire, to Grace Ellen, eldest daughter of Henry John Manning, of Laverstock, near Salisbury.

PRESTON—BARRY.—On July 25th, at St. John's Church, Ryde, I.W., Lionel Litchfield Preston, M.B. and B.S. Durh., fourth son of Alfred Preston, of Elsworthy-road, London, N.W., to Evelyn, only surviving daughter of Major R. Edwyn Barry, late 29th Regiment, of Lindenhurst, St. John's-park, Ryde, I.W.

SPEECHLY—BARRETT.—On Tuesday, July 30th, in the Parish Church, Neston, Cheshire, by the Rev. A. W. Humphreys, assisted by Canon Turner, the vicar, Harry Martindale Speechly, M.R.C.S. Eng., L.R.C.P. Lond., of Parkgate, Cheshire, eldest son of the Right Rev. Bishop Speechly, to Mary Barrett, B.A. Viet. Univ., eldest daughter of the late Rev. W. F. Barrett, formerly headmaster of Mostyn House School and senior curate of Neston.

DEATHS.

BOTT.—On July 28th, Camilla, beloved wife of W. Gibson Bott, J.P., L.R.C.P., &c., at 414, Clapham-road, S.W., aged 43 years.

BRUMWELL.—On July 26th, at 136, Duke-street, Southport, James Teasdale Brumwell, M.R.C.S. Eng., L.S.A., aged 78 years.

JAMIESON.—On July 26th, at Shanghai, China, R. A. Jamieson, M.D. Irel., M.R.C.P. Lond., M.R.C.S., aged 53 years.

LEWINS.—On July 22nd, at Nottingham-place, W., Staff-Surgeon-Major Robert Lewins, M.D Heidelberg.

LEY.—On June 10th, 1895, at the Universities' Mission, Central Africa, in his 37th year, Herbert Ley, M.R.C.S. Eng., eldest son of the late William Ley, of Westbourne-terrace, London, W.

MARSHALL.—On July 25th, at his residence, Liverpool-street, Dover, John Marshall, L.R.C.P. Lond., M.R.C.S., J.P., aged 64 years.

NEALE.—On July 21st, three weeks before the completion of her 103rd year, Caroline Elizabeth Neale, mother of Richard Neale, M.D. Lond.

PARKER.—On July 30th, on his 60th birthday, Robert Parker, M.R.C.S., Malpas.

TOMES.—On July 29th, at Upwood Gorse, Caterham, Sir John Tomes, F.R.S., F.R.C.S., aged 80 years.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale, and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICE.

"THE LANCET" AND ACCIDENT INSURANCE.

A LITHOGRAPHED CIRCULAR LETTER, emanating from an office in the Strand district, is being sent to members of the medical profession, offering to supply them with THE LANCET, in conjunction with an accident insurance policy. The Proprietors of THE LANCET are in no way connected with the scheme (of which they cannot approve), and were not aware of its inception until their attention was called to it by a reader who had received the circular.

RISK OF OPERATING WITHOUT CONSENT.

AN action involving a claim for £2000 has been tried in Belgium which is of considerable interest to surgeons. It appears that a lady who suffered from uterine hæmorrhage was recommended by a consultant who was called in by her family attendant to allow the uterus to be curetted, to which she and her husband consented. When the operation was begun it was discovered that there was cancer of the uterus, and the operator and the family practitioner decided then and there to remove the whole organ, the result being that the patient died from hæmorrhage. As neither the patient nor the husband was consulted about the hysterectomy it was held by the court to be unjustifiable. The damages were, however, reduced to £200.

Divining Rod.—We have been unable to find any recent article referring to the supposed efficacy of the hazel switch in our columns.

W. S. S.—The letter was duly received.

"THE LOSS OF SIGHT, HEARING, AND SPEECH."

To the Editors of THE LANCET.

SIRS,—The following particulars relating to an answer given in THE LANCET, April 6th, 1895, reaches you perhaps too late to be of any use to Mr. T. R. L. Edwards.

I remember in 1872, in visiting the Hospital for the Blind at Lausanne, that they showed me a girl fourteen years old who was born deaf, and who at a very early age had lost her eyesight in consequence of an attack of small-pox. Notwithstanding this she could learn to articulate sufficiently distinctly many words, with the patient exertions of speaking of the teacher while the child was holding her hands applied to the larynx of the speaker. They also told me of other instances of the deaf and blind being taught to speak, and particularly of the case of one patient, deaf and blind from birth, who had at that time left the institute, and had succeeded in becoming a very able turner—so able as to have executed by himself a fine shelf, which was shown to me. I do not remember the name of the then old director of the institution, but the oculist at that time was Dr. Marc Dufour, a pupil of Horner.

I am, Sirs, very truly yours,

Pisa, July 15th, 1895. DR. P. SORSINO.

"ALLEGED TOUTING BY A PUBLIC VACCINATOR."

To the Editors of THE LANCET.

SIRS,—In THE LANCET of July 27th Dr. J. Lumsden Bell accuses me of having been vindictive with regard to his assistant, Dr. Slane, and desires you to take Dr. Slane out of the pillory in which, he states, I have been the unfair means of placing him, and to put me there in Dr. Slane's stead. I ask you, in fairness to myself, to permit me to explain my position once more. I distinctly deny any vindictive feeling in this matter. I have suffered annoyance by the acts of Dr. Slane, and have been indignant at his obtruding himself upon my patients in such a manner that many have complained to me of his visits.

Following Dr. Bell's example, I will ask you one "straight question" for my guidance in the future. Am I justified in having complained of Dr. Slane visiting my patients—patients who are not in any sense of the word defaulters (*vide* Dr. Bell's letter in THE LANCET of July 27th); and shall I be justified in looking upon any future act of this sort as one of touting? The whole matter is in that question. Dr. Bell, referring to your comments on my letter found in THE LANCET of May 18th, wrote to me the following statement: "The conduct denounced by yourself and the Editors of THE LANCET is equally abhorrent to Dr. Slane and myself." I take it that by this Dr. Bell and Dr. Slane are willing to stand or fall by your verdict. Certainly that is my determination. Either Dr. Slane, as public vaccinator, has the right of *entrée* to another medical man's patients, or he has not. If you decide that he has, then I will willingly occupy the pillory which Dr. J. Lumsden Bell, by casting aside the *nom-de-plume* over which I wrote my letters to you and placing in its stead the full names of all concerned, has prepared. I am, Sirs, yours faithfully,

Nafferton, Yorks, July 30th, 1895. CHARLES H. ECCLES.

"THE TITLE OF 'DR.'"

To the Editors of THE LANCET.

SIRS,—Will you allow me one word in reply to "R. B. F."? I think he forgets the effect of custom. To talk of "Solicitor A.," or to address a dentist as "Dentist," would be startling because novel. But to speak of a physician as "Dr. B." and to address him as "Doctor" is justified by very old-established custom. I do not see that the substitution of a synonym proves anything more than that the claim of the diplomate to the title rests upon the courtesy accorded to him as a member of the medical profession. My error concerning the claim of the L.S.A. put aside, no other claim than that of courtesy has been advanced. To take a rather similar case. Would "R. B. F." address the commander of an ocean liner as "Master of a trading vessel" because, though a captain in the ordinary interpretation of the word, he does not hold the Queen's commission? If the title "Dr." were strictly restricted to those who alone can legally claim it—namely, holders of a Doctor's degree—the position would be logical and defensible. And however much we might protest against the inequality of these degrees, and the unfairness of refusing to the great majority of the profession all opportunity of obtaining them, we should not be able to question the justice of the restriction itself. But if the title is to be given by courtesy to certain men who do not hold the M.D. degree, why is it not to be given by courtesy to all medical men, or at least, in accordance with old-established custom, to all physicians? The distinction implies a slur upon the diplomate which is not justified by the comparative value of his qualifications. I am, Sirs, yours faithfully,

July 23rd, 1895. NOT L.S.A.

To the Editors of THE LANCET.

SIRS,—The above subject is so simple that I am not a little surprised to find members of our profession raising a discussion about it. The whole thing lies in a nutshell, which a layman, "R. B. F.," in THE LANCET of July 20th, has efficiently cracked and settled once for all. With your permission, however, I should like to make a few additional observations. The title of Doctor is the only prefix title in the medical profession (to which the possessor of a Doctorate alone has a right), and is the highest academical honour which a University can bestow upon its graduates, and in doing so acts as the mouth-piece of the Crown. This title is, therefore, in kind if not in degree, equal to any other prefix title, and neither the University which granted it nor the General Medical Council can deprive its possessor of it. A special Act of Parliament alone can do so. Under certain circumstances they can remove his name from the Medical Register, but can do nothing more. As Universities alone are empowered to confer this title it is evident that no merely licensing bodies can do so. Any one, therefore, not possessed of a Doctorate and assuming its prefix title makes himself not a little ridiculous.

I am, Sirs, yours truly,

July 24th, 1895. M.D. EDIN.

To the Editors of THE LANCET.

SIRS,—Allow me to get the opinion of the profession through your valuable columns anent the following scheme:—Let the universities remove the stumbling-block of "residence" in the case of a Licentiate of five years' standing, so that thereby he may compete for the M.B. and subsequently the M.D. I need hardly say that it is a great hardship on a Licentiate to wait until he is forty years old and fifteen years qualified before proceeding for the M.D.

I do not think that it is right for some members of the profession to limit the title of "Dr." to M.D.'s, because the very title itself has become to mean a "medical man." I am, Sirs, yours truly,

July 22nd, 1895. A LICENTIATE.

THE BABY FASTENER.

THIS is a patented appliance for preventing infants up to three years of age from coming out of their cots or cribs. It consists of a very stout band of webbing, thirty inches long and five inches wide, which is placed on the undersheet, and secured by its attached tapes beneath either the mattress or the bed itself. Two linen flaps stitched to this band are buttoned over the child's body just below the armpits. They leave room enough for the child to turn itself round inside them, and when the child is to be taken out of the cot only three buttons require to be unfastened. With a view to cleanliness the baby fastener is made so as to be easily washed, all the materials being unshrinkable. The manufacturers are Messrs. John J. Wilson and Co., Kendal, Westmorland. They also make a modification of the same article for the use of adults suffering from delirium tremens.

Mr. Horsley Mapleson.—The name mentioned in the advertisement sent by our correspondent does not appear on the Medical Register, so that the General Council of Medical Education and Registration have no control over the advertiser.

Subscriber.—(1) We cannot answer as to the *legality* of the step without seeing the bond between our correspondent and the body in question. (2) It is usual to intimate that details will be given on demand.

L.R.C.P. Lond., M.R.C.S. Eng.—The choice between the prefix and the suffix is a matter of taste. Either is right.

"AN ADVERTISEMENT OF A HOSPITAL."

To the Editors of THE LANCET.

"ANYBODY in LONDON having spare time on Monday, 22nd, or Tuesday, 23rd July, is INVITED to VISIT the POPLAR HOSPITAL for ACCIDENTS between 2 and 7 o'clock.

Newly built. Newly fitted. No debt.
No horrors. No infection.
Best Way.—Drive or bicycle, 45 minutes from West-end.
Another Way.—Blackwall Omnibus from Piccadilly-circus, 75 minutes.
Another Way.—Train to Aldgate, thence by yellow tram."

SIRS,—I note that in your issue of July 27th you write that the above advertisement, for which I am solely responsible, is unfitting, undignified, savours too much of a "Cheap Jack," and is wanting in taste. Somewhat severe this—even for THE LANCET. You will, I am sure, forgive me if I do not dispute with you the question of good or bad taste. That must always be a matter of opinion. The reason I am "drawn" to make reply to your scolding—which is an idiotic thing to do—is because you write, "We do not think the above advertisement a very fitting one, inasmuch as it contains remarks that might tend to keep charitable visitors away from other hospitals." I confess this annoys me, because it implies that I had the intention of hurting other hospitals to the advantage of my own. Nothing was, or can possibly be, further from my intention. I fear, Sirs, your profession, entailing as it does the constant diagnosing for disease, has led you unconsciously to be too ready to imagine and discover evil where none exists. My advertisement was not addressed to "charitable" visitors. They visit hospitals now. It was addressed to the careless and curious, and my harmless sentences—as I thought them till you laid bare their wickedness and malignity—were in answer to the constant excuses I have made to me when I beg people to visit the hospital. "*Newly built*," "*newly fitted*," were the attractions I had to offer my visitors to induce them to take an hour's journey in a Blackwall 'bus or a yellow tram. "*No debt*" was to assure them that they would not be badgered to pay for those attractions. I wanted not to get their money—then—but to spread an interest in the hospital's welfare. "*No horrors*" was inserted to dispel an idea which in my less dignified and less isolated position in life I meet with constantly—that in an accident hospital rivers of blood flow about on the floor all day. And, lastly, "*No infection*" was added to induce fond mothers to bring their children, and so instil early into them some kindly thought for the suffering poor.

Come off your stilts, please, Mr. LANCET, and do a little more for our hospitals than merely reporting hospital practice and seeking and suggesting evil motives where none exist.

I am, Sirs, yours faithfully,

July 28th, 1895. SYDNEY HOLLAND.

*** We agree with the Hon. Sydney Holland that to argue about questions of taste is futile. Of the goodness of his motives or of his anxiety to promote the welfare of the institution of which he is chairman we have no shadow of doubt, but we cannot pretend to like the advertisement.—ED. L.

HONOURS TO THE PROFESSION: AN UNSOLICITED TESTIMONIAL.

To the Editors of THE LANCET.

SIRS,—While walking in a not very fashionable part of this neighbourhood the other day I noticed a young lady aged six or seven suddenly stop, clutch her companion, aged four or five, point at me and say, "That's the man what done my father better." After twenty-five years' service as a parish medical officer, surely, Sirs, I may feel that my labours have not been altogether in vain.

I am, Sirs, your obedient servant,

Crouch End, July 28th, 1895. F. ORTON, M.D.

"THE POST OF SURGEON ON THE CABLE TELEGRAPH SHIPS."

To the Editors of THE LANCET.

SIRS,—In reply to your correspondent "H.A.B." I beg to give the following particulars concerning these posts with the Silvertown Company's ships (the Indiarubber, Guttapercha, and Telegraph Co.).

The pay is £13 per mensem, 1*s.* a day wine allowance, full amount of cost of uniform, and as a rule a bonus of at least one month's pay at the end of the voyage. Aboard their largest ship, the *Silvertown*, will be found the most perfect surgery afloat. Drugs are ordered by the surgeon for the voyage at his discretion, and a complete set of surgical instruments and appliances provided. The surgeon, moreover, takes in this company's service his rightful position; he is a senior officer, and his words, on matters appertaining to his own work, are law. On the ships of the Telegraph Construction and Maintenance Company the pay is £12 per mensem, 1*s.* 6*d.* per day wine allowance, but no uniform allowance and no bonus. The surgeon here will not find himself in quite so good a position as in the service of the first-mentioned company; still, the appointment is a comfortable one. On *cable-laying* expeditions the length of voyage varies, of course, with the amount of cable to be laid, the distance abroad to be steamed to the starting point, and the difficulties of laying. No average time can be mentioned, each voyage having its own peculiarities. On cable-repairing ships, of which the Eastern Telegraph Company have several, and the Central and South American Cable Company two, the pay is about £15 per month, and the length of service three years.

Both the first-mentioned companies also repair cables, sending out special ships for the work. The pay on these expeditions is as mentioned under the several companies; the length of the voyage is always uncertain owing to the difficulties experienced in the work. The life is an exceedingly pleasant one, the object of the expedition is most interesting, and the ships are invariably comfortable to live in. As to professional work the men are a picked lot physically; the surgeon must be prepared, however, at any moment during the actual laying of the cable to perform serious operative work (single-handed as a rule), for should an accident occur, which happily is rare, it means a terrible one. Finally, if the surgeon has not yet "crossed the line," he must look forward to being introduced to Father Neptune and the ceremonies and penalties exacted from one who is not yet a "true son of Neptune." I shall be glad to see your correspondent personally, if he should wish it, and give him further information. Crouch, in "On a Surf-bound Coast" and in "Glimpses of Fever-land" (Allen and Co.), gives much chatty information on the subject of cable-laying.

I am, Sirs, yours faithfully,

H. ATHILL CRUTTWELL,

July 29th, 1895. Late Senior Surgeon, T.S. *Silvertown*.

Mr. F. Hone Moore.—It is impossible for us to say what the General Medical Council would do under the circumstances. There are probably some legal points involved quite outside medical ethics, with which points the Council might have no power to deal.

Enquirens.—The proceeding is certainly not illegal. If the word "medical" has been used in any way suggestive of the possession of medical qualifications, the General Medical Council might be informed.

C. M.—A communication involving such a grave charge must (and we are sure our correspondent will agree with us) be supported by names, dates, and the fullest details, *for our information only*.

"LORD BYRON'S LAMENESS."

To the Editors of THE LANCET.

SIRS,—In answer to the query of "M.B., C.M." in THE LANCET of July 20th I quote the following statement of Edward John Trelawney, in his "Records of Shelley and Byron":—

"To confirm or remove my doubts as to the exact cause of his [Byron's] lameness, I uncovered the Pilgrim's feet, and was answered—it was caused by the contraction of the back sinews, which the doctors call 'tendo Achillis,' that prevented his heels resting on the ground and compelled him to walk on the forepart of his feet; except this defect his feet were perfect. ..... It was generally thought his halting gait originated in some defect of the right foot or ankle; the right foot was most distorted, and it had been made worse in his boyhood by vain efforts to set it right. He told me that for several years he wore steel splints, which so wrenched the sinews and tendons of his leg that they increased his lameness; the foot was twisted inwards, only the edge touched the ground, and that leg was shorter than the other. His shoes were peculiar—very high-heeled, with soles uncommonly thick on the inside and pared thin on the outside; the toes were stuffed with cotton-wool, and his trousers were very large below the knee and strapped down so as to cover his feet. The peculiarity of his gait was now accounted for; he entered a room with a sort of run, then planted his best leg well forward, throwing back his body to keep his balance."

Byron, therefore, seems to have suffered from double talipes equinovarus, the deformity being greatest in the right foot. He was manifestly at fault in attributing his deformity to some act of over-delicacy on the part of his mother at her accouchement, as he says in one of his letters. Byron took no interest in medical knowledge, and appears to have disliked medical men as a class. I am, Sirs, faithfully yours,

Surbiton, July 22nd, 1895. R. H. REYNOLDS.

AN ECONOMICAL SOLICITOR.

To the Editors of THE LANCET.

SIRS,—I gave evidence in a sessions case recently. The solicitor for the prosecution sent me my fee of £1 1*s.*, less banker's commission and postage, 4*d.* I want to know whether he can legally do so, as I write and ask for the 4*d.*, and he declines to send it.

I am, Sirs, yours faithfully,

July 30th, 1895. C. G.

J. H. D.—A medical man's claim to attend a patient who sustains an accident does not lapse because he happens to be out of the way at the time. Any medical man knowing of his former relations to the patient should consider them and offer to hand the case over. If the patient or his parents insist on the practitioner called in continuing his attendance, he is scarcely at liberty to decline to do so. But all his influence should be exerted to restore the patient to his original attendant. There was in this case a want of firmness and promptness in the parent. We see no intention on the part of the practitioner called in (B) to act unprofessionally; but when he learnt that A was the family medical attendant he would have done well to offer to hand the case over before operation.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Aug. 1st, 1895.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb	Wet Bulb	Solar Radia in Vacuo	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
July 26	29·88	S.W.	67	64	114	77	64	...	Overcast
" 27	29·69	S.W.	64	63	110	73	63	...	Cloudy
" 28	29·65	N.E.	58	57	71	61	54	0·74	Raining
" 29	29·87	N.W.	61	58	100	70	56	0·15	Cloudy
" 30	30·01	N.W.	60	56	100	68	57	...	Hazy
" 31	30·00	E.	61	57	108	71	58	...	Cloudy
Aug. 1	30·02	E.	59	55	90	68	54	...	Bright

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (1 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynecological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.).

TUESDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1.30 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Gt. Northern Central (2.30 P.M.).

WEDNESDAY.—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.).

THURSDAY.—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (2 P.M.), Soho-square (2 P.M.), North West London (2 P.M.).

FRIDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.).

SATURDAY.—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

During the week marked copies of the following newspapers have been received:—*Wellington Journal, Sussex Daily News, Free Russia, Brighton Argus, Western Daily Mercury, Sun, Manchester Guardian, Kidderminster Shuttle, Bombay Gazette, Walsall Observer, Liverpool Mercury, Sheffield Telegraph, Birmingham Post, Glasgow Evening News, East Anglian Daily Times, Newcastle Chronicle, Oldham Standard, Halifax Guardian, Times of India, Cheshire City News, Liverpool Courier, Pioneer Mail, Builder, Irish Times, Derby Express, Architect, North Wales Chronicle, City Press, Hackney Mercury, Morning Leader, Scotsman, Yorkshire Post, Bristol Mercury, Citizen, Courrier de la Presse, Leeds Mercury, Sanitary Record, Optician, Liverpool Daily Post, Detroit Tribune, Reading Mercury, West Middlesex Standard, Weekly Free Press and Aberdeen Herald, Hertfordshire Mercury, Local Government Chronicle, Dairyman, Surrey Advertiser, Toronto Signal, Evening Bulletin, Philadelphia Mining Journal, Cape Times, Local Government Journal, Watford Chronicle, Kelso Mail, Peterhead Sentinel, Worcester Daily Times, Australian Medical Journal, Australasian Medical Gazette, General Advertiser (Dublin), Walton News, Western Mail, Banffshire Journal, Southport Visiter, Portsmouth Mail, &c., &c.*

Communications, Letters &c. have been received from—

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B.—Dr. T. H. Barnes, Lond.; Mr. S. H. Byam, Lond.; Mr. T. B. Browne, Lond.; Mr. F. Braham, Brighton; Mr. H. Black, Gateshead; Mrs. K. Behnke, Lond.; Messrs. Burroughs, Wellcome, and Co., Lond.; Messrs. Bailey and Son, Lond.; Messrs. W. and G. Baird, Belfast; Messrs. Bell and Bradfute, Edinburgh; Messrs. Burgoyne, Burbidges, and Co., Lond.; Messrs. Bloudeau et Cie., Lond.; British Castor Co., Lond.

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Letters, each with enclosure, are also acknowledged from—

A.—Dr. A. E. Ash, Stoke-on-Trent; Mr. R. W. Aitken, Helmsley; A. G. B., Lond.; A. H. B., Lond.; A. K., Lond.; Assistant, Lond.

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E.—Dr. A. E. Evans, Lond.; Eryri, Lond.; Expectans, Lond.

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